

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2022

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
FOR THE TRANSITION PERIOD FROM

TO

Commission File Number 001-40817

AMPLITUDE, INC.

(Exact name of Registrant as specified in its Charter)

Delaware
(State or other jurisdiction of
incorporation or organization)
201 Third Street, Suite 200
San Francisco, California
(Address of principal executive offices)

45-3937349
(I.R.S. Employer
Identification No.)

94103
(Zip Code)

Registrant's telephone number, including area code: (415) 231-2353

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Class A Common Stock, \$0.00001 par value per share	AMPL	The Nasdaq Stock Market LLC

Securities registered pursuant to Section 12(g) of the Act: **None**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. YES NO

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. YES NO

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. YES NO

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). YES NO

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
Emerging growth company	<input type="checkbox"/>		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements.

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b).

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). YES NO

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the Registrant, based on the closing price of the shares of Class A common stock on the Nasdaq Capital Market on June 30, 2022, was approximately \$806.2 million.

As of February 8, 2023, there were 76,481,146 shares of the registrant's Class A common stock and 37,848,642 shares of the registrant's Class B common stock, each with a \$0.00001 par value per share, outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement for the registrant's 2023 annual meeting of stockholders, which will be filed with the Securities and Exchange Commission no later than 120 days after December 31, 2022, are incorporated by reference in Part III of this Annual Report on Form 10-K.

Table of Contents

	<u>Page</u>
PART I	
Item 1. Business	5
Item 1A. Risk Factors	18
Item 1B. Unresolved Staff Comments	46
Item 2. Properties	46
Item 3. Legal Proceedings	46
Item 4. Mine Safety Disclosures	46
PART II	
Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	47
Item 6. [Reserved]	48
Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations	48
Item 7A. Quantitative and Qualitative Disclosures About Market Risk	66
Item 8. Financial Statements and Supplementary Data	67
Item 9. Changes in and Disagreements With Accountants on Accounting and Financial Disclosure	97
Item 9A. Controls and Procedures	97
Item 9B. Other Information	97
Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections	97
PART III	
Item 10. Directors, Executive Officers and Corporate Governance	98
Item 11. Executive Compensation	98
Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	98
Item 13. Certain Relationships and Related Transactions, and Director Independence	98
Item 14. Principal Accountant Fees and Services	98
PART IV	
Item 15. Exhibits and Financial Statement Schedules	99
Item 16. Form 10-K Summary	100
Signatures	101

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements. We intend such forward-looking statements to be covered by the safe harbor provisions for forward-looking statements contained in Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). All statements other than statements of historical facts contained in this Annual Report on Form 10-K may be forward-looking statements. In some cases, you can identify forward-looking statements by terms such as “may,” “will,” “should,” “expects,” “plans,” “anticipates,” “could,” “intends,” “targets,” “projects,” “contemplates,” “believes,” “estimates,” “forecasts,” “predicts,” “potential” or “continue” or the negative of these terms or other similar expressions. Forward-looking statements contained in this Annual Report on Form 10-K include, but are not limited to statements about:

- our expectations regarding our revenue, expenses, and other operating results;
- our ability to acquire new customers;
- our ability to increase usage of our Digital Analytics Platform and upsell and cross sell additional products;
- our ability to achieve or sustain profitability;
- future investments in our business, our anticipated capital expenditures, and our estimates regarding our capital requirements;
- the costs and success of our sales and marketing efforts, including our ability to grow and maintain our channel partners, and our ability to promote our brand;
- the effects of the coronavirus (“COVID-19”) pandemic and other global events on our business and the global economy generally, including as a result of any new strains or variants of the virus as well as the ongoing war in Ukraine;
- our reliance on key personnel and our ability to identify, recruit, and retain skilled personnel;
- our ability to effectively manage our growth, including any international expansion;
- our ability to protect our intellectual property rights and any costs associated therewith;
- our ability to compete effectively with existing competitors and new market entrants; and
- the increased expenses associated with being a public company.

We caution you that the foregoing list does not contain all of the forward-looking statements made in this Annual Report on Form 10-K.

You should not rely upon forward-looking statements as predictions of future events. We have based the forward-looking statements contained in this Annual Report on Form 10-K primarily on our current expectations, estimates, forecasts, and projections about future events and trends that we believe may affect our business, results of operations, financial condition, and prospects. Although we believe that we have a reasonable basis for each forward-looking statement contained in this Annual Report on Form 10-K, we cannot guarantee that the future results, levels of activity, performance, or events and circumstances reflected in the forward-looking statements will be achieved or occur at all. The outcome of the events described in these forward-looking statements is subject to risks, uncertainties, and other factors discussed in Part I, Item 1A, “Risk Factors” in this Annual Report on Form 10-K. Moreover, we operate in a very competitive and rapidly changing environment. New risks and uncertainties emerge from time to time, and it is not possible for us to predict all risks and uncertainties that could have an impact on the forward-looking statements contained in this Annual Report on Form 10-K. The results, events, and circumstances reflected in the forward-looking statements may not be achieved or occur, and actual results, events, or circumstances could differ materially from those described in the forward-looking statements.

The forward-looking statements made in this Annual Report on Form 10-K relate only to events as of the date on which the statements are made available. We undertake no obligation to update any forward-looking statements made in this Annual Report on Form 10-K to reflect events or circumstances after the date of this Annual Report on Form 10-K or to reflect new information or the occurrence of unanticipated events, except as required by law. We may not actually achieve the plans, intentions, or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures, or investments we may make.

In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this Annual Report on Form 10-K, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should

not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain, and you are cautioned not to unduly rely upon these statements.

You should read this Annual Report on Form 10-K and the documents that we reference in this Annual Report on Form 10-K and have filed as exhibits to this Annual Report on Form 10-K, completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements in this Annual Report on Form 10-K by these cautionary statements.

SUMMARY OF RISK FACTORS

Our business is subject to a number of risks and uncertainties, as more fully described in Part I, Item 1A, “Risk Factors” in this Annual Report on Form 10-K. The following is a summary of principal risks and uncertainties that could materially adversely affect our business, financial condition, and results of operations. This summary should be read in conjunction with the “Risk Factors” section and should not be relied upon as an exhaustive summary of the material risks and uncertainties facing our business.

- We have a limited operating history and have been growing rapidly over the last several years, which makes it difficult to forecast our future results of operations and increases the risk of your investment.
- We have a history of losses. As our costs increase, we may not be able to generate sufficient revenue to achieve and sustain profitability.
- Our business depends on our current customers renewing their subscriptions and purchasing additional subscriptions from us, as well as attracting new customers. Any decline in our customer retention or expansion of our commercial relationships with existing customers or an inability to attract new customers would materially adversely affect our business, financial condition, and results of operations.
- We expect fluctuations in our financial results, making it difficult to project future results. If we fail to meet the expectations of securities analysts or investors with respect to our results of operations, the trading price of our Class A common stock could decline.
- We expect to continue to focus on sales to larger organizations and may become more dependent on those relationships, which may increase the variability of our sales cycles and our results of operations.
- We recognize revenue over the term of our customer contracts. Consequently, downturns or upturns in new sales may not be immediately reflected in our results of operations and may be difficult to discern.
- The trading price of our Class A common stock has been, and in the future, may be, volatile, and could decline significantly and rapidly.
- Unfavorable conditions in our industry or the global economy, or reductions in software spending, could limit our ability to grow our business and materially adversely affect our business, financial condition, and results of operations.
- If the market for SaaS applications develops more slowly than we expect or declines, our business would be adversely affected.
- Our intellectual property rights may not protect our business or provide us with a competitive advantage, which could have a material adverse effect on our business, financial condition, and results of operations.
- We are subject to government regulation, including import, export, economic and trade sanctions, and anti-corruption laws and regulations, that may expose us to liability and increase our costs.
- Complying with evolving privacy and other data-related laws as well as contractual and other requirements may be expensive and force us to make adverse changes to our business, and the failure or perceived failure to comply with such laws, contracts, and other requirements could result in adverse reputational and brand damage and significant fines and liability or otherwise materially adversely affect our business and growth prospects.
- Our principal stockholders have the ability to influence the outcome of director elections and other matters requiring stockholder approval.
- The dual class structure of our common stock has the effect of concentrating voting control with our existing stockholders, executive officers, directors, and their affiliates, which limits your ability to influence the outcome of important transactions and to influence corporate governance matters, such as electing directors, and to approve material mergers, acquisitions, or other business combination transactions that may not be aligned with your interests.

PART I

Item 1. Business.

Overview

We are driving the evolution of a new category of software called digital analytics. Our Digital Analytics Platform serves as the command center for businesses to connect digital products to business outcomes, and provides self-service visibility into the entire customer journey. With Amplitude, organizations can build amazing product experiences, drive revenue growth, and win their categories. Digital analytics is emerging as a strategic investment for every company to survive and thrive in the digital-first world.

Digital products are embedded in every part of our daily lives and digital has become the primary way business is done. The ability for companies to offer compelling digital products and services has become a matter of survival.

The way that companies build digital products is going through a fundamental change from being intuition-based to data-driven. Product teams have historically decided what to build based on qualitative gut feel and without a firm understanding of what will drive business results. Today, the best teams are those that build their strategy around product data, which connects the attributes of individual end users with their actual behavior. Product data has become the next untapped growth lever to transform how businesses build products, gain key insights into which features have the greatest business impact, and connect with customers.

The amount of time that consumers spend interacting with digital products has led to an explosion of both the quantity and diversity of data. Because products themselves are generators of data, for the first time, in-product behavior can now be analyzed. With product data, teams can gain insight from the specific actions end users take within digital products and answer important questions, such as where in the purchase journey do users experience friction, what are the top user paths between signup and trial conversion, and which features increase new customer retention.

Traditionally, businesses have spent billions of dollars on a patchwork of systems, including web and marketing analytics, business intelligence tools, and sentiment tools, to help understand how their digital product investments drive business outcomes. These tools were not built on product data and do not understand in-product behavior, nor were they built for the scale and complexity of digital products to provide actionable and real-time product-driven insights. Businesses today do not know if their strategic product decisions are the right ones, and they do not have the insights to help ensure they work.

Digital analytics can show companies what users like about their products, where they get stuck, and what keeps them coming back. These insights enable companies to adapt their digital product experiences to each customer to maximize engagement, retention, and lifetime value. And they show companies how to innovate, what changes to make, and when to double down or go in a different direction.

Product, data, engineering, and marketing teams are often forced to make business decisions in a vacuum and without understanding the linkage between product decisions and business outcomes. Digital analytics leverages the power of data-driven products to create this linkage automatically. In addition, having a common lens into customer and product data helps every team transform their function, from launching brand-defining marketing campaigns to reimagining customer support. Bringing shared data and common visibility to every team will be a business-critical requirement in the digital analytics era.

How Amplitude Powers Digital Analytics

We built the first Digital Analytics Platform that brings together a new depth of customer understanding with the speed of action to optimize experiences. We power some of the most beloved and iconic consumer and B2B digital products. We enable businesses, regardless of size, industry, or where they are in their digital maturity, to unleash digital innovation and growth. Our system unifies product, marketing, data, and executive teams, by giving them the common visibility to drive business outcomes with agility and confidence.

Our Digital Analytics Platform consists of the following integrated solutions:

- A customer **data infrastructure layer** that ensures data easily comes in, unifies, and stays high quality. This is foundational functionality embedded in Analytics that supports how customers analyze, activate, and test new digital products and experiences.
- **Amplitude Analytics**, consistently ranked #1 in multiple categories by G2, provides real-time product data so cross-functional teams can understand what is working and what is not.
- **Experimentation**, a product experimentation solution that is fully integrated with Analytics to plan, deliver, monitor, and analyze tests and product changes.
- **Audience Management** tools leverage the first-party data in Analytics to build customized audience lists through behavioral segmentation or machine learning (“ML”) powered predictions. Customers can also deliver 1:1 personalization through ML powered content and product recommendations.
- **Data Streaming** tools push event data and user profiles to other tools in customers’ stacks in real-time to destinations such as marketing platforms, ad networks, personalization engines, and others.
- **Amplitude CDP** is an insight-driven solution that encompasses our data infrastructure, audience management, and data streaming capabilities. Customers may choose to purchase the whole CDP or one of the capabilities within it.

At the core of our Digital Analytics Platform is the Amplitude Behavioral Graph, a proprietary behavioral database purpose-built for complex, interactive behavioral queries, with novel approaches to normalizing, classifying, and partitioning behavioral data. The Behavioral Graph scales to look at every individual customer action taken in a digital product and identifies combinations of actions that lead to a desired outcome. The Behavioral Graph processes behavioral data points to help answer questions like why do users convert or drop off, which interactions predict likelihood to buy, and what are the most common paths users take.

We are Mission Critical to Our Customers

As of December 31, 2022, we serve almost 2,000 paying customers globally, from the most ambitious startups to the largest global enterprises. We are the trusted source of customer and product insight for the world’s leading data-driven, product-led digital companies and bring the same technology to the remaining companies that lack this expertise. We serve customers across virtually every industry, including finance, media, retail, industrials, hospitality, healthcare, and telecom, as well as companies in various stages of digital maturity. Digital analytics has become mission critical to companies of all sizes and in all industries to keep up with the pace of innovation required to survive in the digital-first world.

Our Digital Analytics Platform is mission critical to our customers’ success. Within our largest customers, thousands of users leverage our system to drive better outcomes in their respective functional areas. The broad applicability and ease of use of our system results in significant commitments by our customers as part of their core technology stack. As of December 31, 2022 and 2021, we had 480 and 385 customers, respectively, that each represented greater than \$100,000 in Annual Recurring Revenue (“ARR”) and 30 and 29 customers, respectively, that each represented greater than \$1 million in ARR, demonstrating how critical we are to our customers’ success.

Our Business Model

We generate revenue primarily through selling subscriptions to our platform. We reach customers through an efficient direct sales motion, solution partners, and product-led growth initiatives, including subscription plans to meet the needs of a diverse range of companies. Our pricing model is based on both the platform functionality required by our customers as well as committed volume. For the year ended December 31, 2022, subscription revenue comprised 97% of our total revenue. Our customers typically look to use our platform for an initial business use case they have identified, such as analytics on a digital product. As our customers experience the value of our platform in helping to drive business outcomes in that initial use case, they frequently expand that initial use case, expand into new use cases, and expand into additional products. Examples of ways customers expand the use of our platform include the following:

- Customers expand an initial use case by tracking additional events on a digital product to gain greater insight into customer journeys or add additional functionality (e.g. predictive analytics, behavioral reports) to meet the needs of teams across the organization;
- Customers expand into new use cases by using our platform for additional digital products in their digital product portfolio and empowering additional teams (e.g. product, marketing, engineering, analytics) responsible for those digital product; and
- Customers expand by layering on additional offerings onto our core Analytics offering to power new capabilities to drive business outcomes.

Our ability to expand within our customer base is also demonstrated by our strong dollar-based net retention rate. As of December 31, 2022 and 2021, our dollar-based net retention rate across paying customers was 119% and 123%, respectively.

Industry Trends

Digital is the New Battlefield for Business Survival

Today, digital products are embedded in every part of our daily lives. The ability for companies to offer compelling digital products and services has become a matter of survival. Several mega-trends are forcing companies to move to digital first, including the continued rise of mobile and cloud, making it easier than ever for new entrants to disrupt existing markets through digital; the rise of the digital economy; and businesses' shift in focus from customer acquisition to customer retention.

The Revenue Center is Shifting from Sales and Marketing to Product

Once considered a cost center for the business, the digital product is now becoming the primary lever in a business to drive growth. The growing importance of product-led growth to a company's survival has fundamentally shifted how companies go to market and invest in innovation.

The revenue center of a business is shifting away from acquisition-focused marketing and sales to retention and expansion through sustained customer engagement within digital products. User engagement, user behavior, customer retention rate, and customer lifetime value have become the new standard metrics to measure the productivity and efficiency of any business. Additionally, as heightened user and data privacy concerns move to limit the type of data app developers and advertisers can use or sell to target customers, it will become increasingly difficult for businesses to acquire their way to growth through traditional marketing and advertising initiatives.

The Approach to Building Digital Products is Being Reinvented

The way that companies build digital products is going through a fundamental shift from being intuition-based to using data derived from the digital product itself to make decisions. Data-driven products:

- *Are Centered in Behavioral Data.* The amount of time that consumers spend interacting with digital products has led to an explosion of both the quantity and diversity of data. Because the digital products themselves are generators of data, this means that in-product behavior can be observed and analyzed for the first time.
- *Adapt to the Customer.* In a world of abundant choice, the expectations of consumers for businesses to deliver highly-personalized digital product experiences continues to be on the rise. The best-in-class digital companies leverage product data to build robust recommendation engines based on artificial intelligence ("AI") and ML algorithms to deliver highly differentiated experiences at scale.
- *Leverage Data Democratization and Common Visibility.* Between product management, engineering, design, marketing, sales, customer success, business operations, and executive teams, there may be thousands of people in an organization

who rely on data as part of their daily responsibilities. Marketing and centralized data teams have traditionally been tasked with the responsibility of aggregating data from various data silos. They analyze data to extract insights and distribute regularly scheduled or ad-hoc reports to various stakeholders. This operating model creates significant barriers for making the data accessible to all who need it, relying on teams of data scientists to serve as intermediaries and tools that require SQL expertise. Even simple data requests can at times lead to weeks or months of cycle time, reducing the agility for business owners to get the data they need to make critical business and product decisions.

Data and insights are only valuable if they can be leveraged by cross-functional stakeholders jointly responsible for making decisions. When product data acts as a single source of truth, every team has access to the same common data to explore and reach alignment on shared goals and actions plans. Data-driven organizations that make data both accessible and actionable enable their teams to expedite the decision making process, thereby iterating on and improving their digital products with greater agility. The faster organizations are able to iterate, the stronger their systematic advantages are against competitors that lack such expertise. With digital products becoming the revenue center of business, a new generation of digital leaders that span across all functions within an organization is required.

Digital Transformation Brings the Imperative of Digital Analytics

While digital transformation has long focused on building web-enabled customer experiences, the role that digital analytics plays is becoming increasingly important.

Digital analytics brings product data to bear on decisions about how a business is run, how to accelerate product innovation, and how to drive growth. And its promise is rooted in the connection between product decisions and business outcomes.

Digital analytics can show companies what users like about their products, where they get stuck, and what keeps them coming back. These insights enable companies to adapt their digital product experiences to each customer to maximize engagement, retention, and lifetime value. And they show companies how to innovate, what changes to make, and when to double down or go in a different direction—thereby answering the fundamental question of how their products drive their business growth.

We believe digital analytics will continue to be a strategic business imperative as digital transformation continues at an accelerated pace across companies of all sizes. It will help make sense of the exponential increase in digital product and user behavioral data—and that the right product bets are made as a result.

Businesses Need a Fundamentally New Approach to Drive Digital Analytics

Businesses have spent billions of dollars on a patchwork of systems to help understand how their digital product investments drive business outcomes. However, these systems were not built for insight on product data in real time and at scale, leveraging the wrong data and undertaking a misguided approach.

Why is product data different?

1. **Complexity.** Digital products are complex, which means that product data operates at a qualitatively different scale than transactional or digital marketing data.
2. **Non-Linear.** Unlike traditional marketing funnels where the goal is strictly increasing the conversion rate to the next step, users do not take a linear journey through a digital product. Based on our customer data, we estimate that, on average, there are approximately 2,500 distinct events that can be measured within each digital product. Each user therefore navigates through an application across multiple devices in a random walk that is unique from every other user. This effect makes it much harder to understand what is happening in the aggregate and generate insights at scale.
3. **Scale.** Combining the number of digital product users a company may have and the amount of engagement per user can result in billions of potential events per product. This scale presents near-insurmountable challenges for any business looking to optimize their digital products to drive outcomes on both a micro and macro level.

The sum of all this complexity means existing categories of software fail to understand product data and were not designed to adequately address the needs of today's digital analytics era:

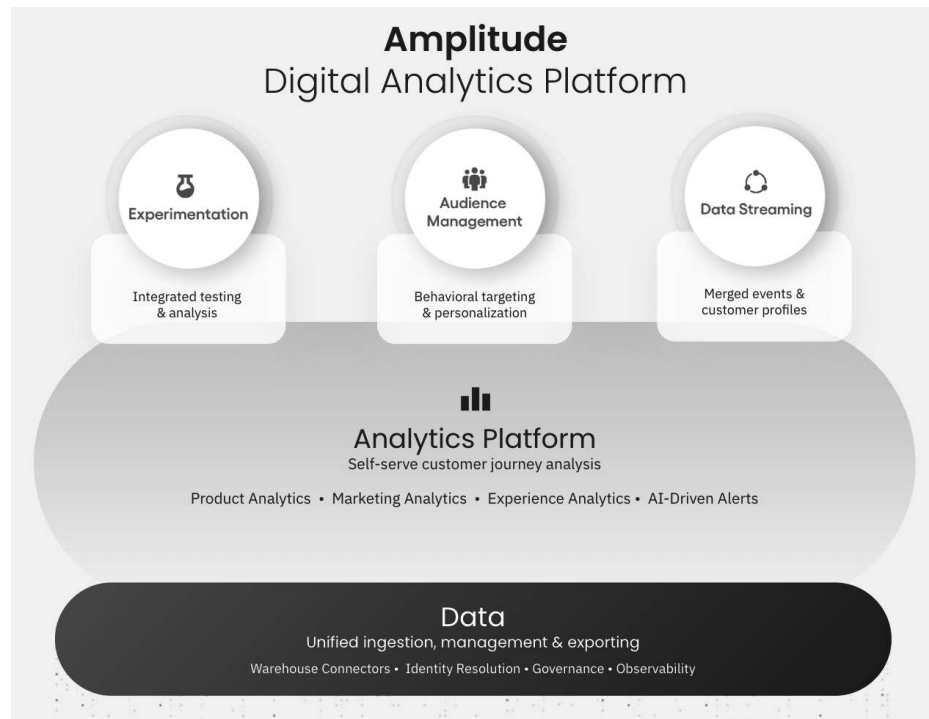
- **Web and Marketing Analytics.** These solutions focus on using web and demographic data to analyze target users and advertising spend. They were most relevant for the Web 1.0 era, when marketers focused on pageviews, campaign sources, clicks, and other surface-level metrics. They were not built for in-product and in-app behavior, deep personalization based on AI and ML, multi-platform end-user journeys, and modern digital measurements. Moreover, many of these solutions are built on a pre-computation data framework – whereby queries are completed in advance and

cached versus performed on the fly – which prohibits flexibility for real-time analysis. This data approach is incompatible with fast moving, collaborative teams that need easy-access data to find, ask, and answer in an iterative fashion and use data to power product experiences at the moment a user engages.

- **Business Intelligence.** These solutions are horizontally focused and built for reporting on object-level data and transactional data, not behavioral data. The implementation of these systems can often take years and requires significant investments in the form of teams specializing in data and analytics to deploy, maintain, and use. Oftentimes built on large data lakes of structured and unstructured data, data teams must scrub, clean, instrument, and canonicalize the data, and then use complex SQL queries to answer even the most basic questions. This process is cumbersome and slow because SQL queries are not designed for user-joins, which connect disparate end-user actions together and are the key to understanding end-user behavior in product, and leads to product and business teams being bottlenecked as they wait for answers. Even when these “blank canvas” environments have been custom built for non-technical users, they are often inflexible and disconnected from their workflows – leaving teams without answers or the ability to act.
- **Sentiment / Survey-based Solutions.** These solutions are focused on uncovering and understanding customer sentiment to improve customer experiences – often non-digital – and include qualitative measurements such as surveys. They are not designed to generate product insight and analyze behavioral data, limiting the applicability outside of customer service, researchers, and marketing teams. Relying on sentiment data in a silo provides an imprecise and incomplete picture of the customer and does not close the loop from insight to action.

The Amplitude Digital Analytics Platform

We built the first Digital Analytics Platform that brings together a new depth of customer understanding with the speed of action to optimize experiences in the moment. It is the only unified system that answers the question: “How do your digital products drive your business?” We power the most-beloved digital products and teams with actionable data and insights – regardless of size, industry, or digital maturity – so they can unleash digital innovation and growth. We make critical data accessible and actionable to every team – allowing product, marketing, engineering, analytics, customer success, and executive teams to align around common visibility and to drive business outcomes with greater speed, agility, and confidence.



In today’s digital-first world, we believe every organization must transform to data-driven teams and products that create competitive advantages and long-term value for both their customers and businesses. A Digital Analytics Platform is essential in this new reality – helping businesses understand how their customers use their products, make better decisions, build personalized experiences that engage and retain customers, and measure performance. With Amplitude, teams have access to a fully integrated, self-service system for data, analytics, and personalization – with intelligence and collaboration built in to help teams innovate faster and smarter.

For instance, we helped a leader in online food delivery answer, “What is the most profitable delivery model that also maximizes order frequency and size?” A popular meditation app discovered the answer to, “How can we redesign our content and app to increase user retention?” And a software company aligned thousands of users across the organization around key metrics and explored questions like, “Why do certain marketing channels show high engagement but low downstream user conversions and revenue?”

Our Digital Analytics Platform consists of the following integrated components:

- A customer **data infrastructure layer** that ensure data easily comes in, unifies, and stays high quality. This is foundational functionality embedded in Analytics that supports how customers analyze, activate, and test new digital products and experiences.
- **Amplitude Analytics**— our core platform of analytics capabilities, which includes:
 - **Product Analytics:** Tools and processes used to understand the behavior of users across products or services to inform decisions about how to improve the product experience and increase product engagement. Self-serve insight into user behaviors and journey, feature adoption, user conversions and retention, and experimentation.
 - **Marketing Analytics:** Reporting on campaign and content performance and website traffic.
 - **Experience Analytics:** Tools that provide diagnostic insights into visitor activity and the customer experience on responsive web and mobile apps, enabled by advanced analytics and ML, session replay, and heat map technology.
 - **AI-Driven Alerts:** Automated monitoring, anomaly detection, and root cause analysis powered by ML to alert customers to changes in customer engagement.
- **Experimentation**, a product experimentation solution that is fully integrated with Analytics to plan, deliver, monitor, and analyze tests and product changes.
- **Audience Management** tools leverage the first-party data in Analytics to build customized audience lists through behavioral segmentation or ML powered predictions. Customers can also deliver 1:1 personalization through ML powered content and product recommendations.
- **Data Streaming** tools push event data and user profiles to other tools in customers’ stacks in real-time to destinations such as marketing platforms, ad networks, personalization engines, and others.
- **Amplitude CDP** is an insight-driven solution that encompasses our data infrastructure, audience management, and data streaming capabilities. Customers may choose to purchase the whole CDP or one of the capabilities within it.

We power digital analytics for our customers through the following key system capabilities:

- **Behavioral Data at the Core.** We designed data and ML infrastructure purpose-built to understand cross-device and cross-product end-user data – enabling businesses to see, analyze, and act on behavioral data. Our infrastructure is structured around user-joins and partitioned by end users, which is the key to understanding end user behavior in-product. The Amplitude Behavioral Graph processes behavioral data points to help answer questions like why users convert or drop off, which interactions predict likelihood to buy, and what are the most common paths end users take.
- **Built-In Data Management.** Our system includes a comprehensive, built-in data integration and governance suite to plan, integrate, and manage large, distributed data sources in real time. It automatically resolves user identities, normalizes and transforms data into one stream, and governs data quality, consistency, and access across organizations of any size, which is critical for analytics and personalization initiatives.
- **Real-time Analytics and Insight.** We provide the market-leading product analytics solution that enables teams to access out-of-the-box reporting to instantly answer both simple and complex questions about product and customer behaviors. Teams can easily analyze any end-user path across multiple devices, products, and channels from an aggregate to individual end-user level to understand the context behind every end-user action and identify opportunities to improve the digital product experience.
- **Easy Adoption and Collaboration.** Our system provides an easy-to-use interface that allows for viral adoption and democratization of insights within an organization, regardless of technical abilities. Within minutes a new customer on our system can start generating insights relevant to their respective functional areas and engaging with collaborative dashboards, reports, and tools that allow a broad spectrum of people in an organization to participate in data-driven decision making. This ease of use fuels cross-functional adoption that can scale to thousands of active users surfacing insights and sharing findings.

- **Powering Data-Driven Action.** Our system allows teams to directly turn end-user insight into action with personalized, Netflix-like product experiences in a few clicks and without requiring technical expertise. We use sophisticated identity resolution and targeting to reach the right end user, ML recommendations to decide the right content, and real-time integrations with systems our customers already use for delivery at the right time. Additionally, our customers can deploy and test new experiences using the first experimentation and feature management solution powered by behavioral data and product analytics. For example, our system can predict the likelihood a customer will churn based on their behavior and of those statistically similar, and the system will automatically test which campaign or in-product experience is best optimized to drive retention.
- **Enterprise-grade Platform.** Our platform is architected to handle a scale qualitatively different from what is capable by existing customer engagement and experience tools. We offer top-tier security and reliability as our platform is SOC2 Type-2 and ISO 27001 certified, offers single sign-on support and user permissioning, is a recognized AWS Partner for Digital Customer Experience, and has delivered a 99.99% data ingestion uptime service-level agreement (“SLA”) with 100% data durability for the year ended December 31, 2022.

Key Benefits to Our Customers

Our system provides the following key benefits to our customers:

- **Enable the Right Product Bets and Accelerate Innovation.** We enable our customers to answer the critical questions about how their end users are using their digital products and what behaviors lead to better business outcomes. Every click, every interaction, and every event we collect is input from end users that help to inform what actions teams can take to optimize digital products in real time. Our customers are able to analyze behaviors, track engagement, spot friction in the buying process, and understand the drivers of conversion. These insights allow teams to make the right product bets, assess and measure the impact of those decisions, feed learnings back into the system, and rapidly iterate to resolve potential problems before they impact customer acquisition, retention, and lifetime value.
- **Unify Teams with Common Visibility.** We bring a common set of user behavior and in-product engagement data to every team, from product, to marketing, to data science, and beyond. Out-of-the-box dashboards and analytics reports provide common visibility leveraging the same data, while teams can easily click into each report to get as much granularity as required to inform actions and recommendations. Dashboards allow teams to also solve use cases specific to their area of responsibility, for example, understanding what behavior drives conversions to optimize marketing campaigns. This visibility results in better decisions, faster actions, better outcomes, and transformed customer experiences. Our system represents a single source of truth about in-product customer user behavior, and a common place where teams can share results, learn from each other, and plan action together.
- **Maximize Value of Product Investments.** The ability of our system to attribute revenue to specific product investments transforms what has traditionally been viewed as a cost center into a revenue center. This ability unleashes a much more powerful way to operate when companies can make investments with confidence and drive product-led growth.

Our Growth Strategies

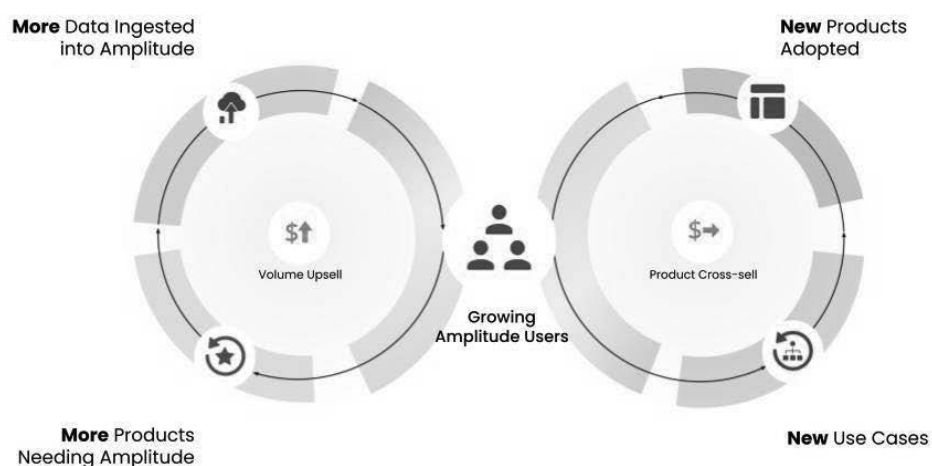
We intend to pursue the following growth strategies:

- **Acquire New Customers Across Every Industry.** We believe that our Digital Analytics Platform is applicable to businesses across industries, company size, and stage of digital maturity. We plan to invest to capture the significant market opportunity we believe is only in its early innings. We have experienced rapid growth in our customer base since our inception and had 1,994 paying customers and 28 of the Fortune 100 as of December 31, 2022, which demonstrates both our successful traction to date as well as our significant opportunity to continue to penetrate the largest global organizations. We believe we have an efficient and productive go-to-market motion that will allow us to continue to acquire new customers and grow our customer base. Additionally, as more companies and industries continue their transformation into digital-first companies, we believe our immediate potential customer base will grow as we help these companies address their digital analytics needs. We are focused on winning key reference accounts among industries and emerging use cases to establish ourselves as the system of choice for the next wave of digital innovation.
- **Expand Across Our Existing Customer Base.** We believe that there are significant opportunities to continue to expand our relationships with our existing customers. Our pricing model, based on platform functionality and committed event volume, allows us to grow as our customers grow. We employ a land and expand business model designed to land with an initial use case and expand through onboarding additional functional teams, products, and use cases.
 - o *Promote Upsell:* Once a customer is on our platform there are many ways we can promote upsell opportunities. Customers can expand an initial use case by adding additional events or functionality to generate deeper analytics.

They can also expand into additional functional teams who are looking to address a related use case or bring new digital products on our platform, both of which require additional data to be instrumented. As the strategic value of our platform grows as more data is instrumented and insights generated and shared, it becomes easier to find additional upsell opportunities across digital products, use cases, and teams.

- o *Drive Cross-sell:* Our platform delivers end-to-end capabilities that allow our customers to expand beyond analytics and layer on additional products.

Within our largest customers, we have demonstrated our ability to grow our reach to include thousands of users across their organization who leverage our system to drive business outcomes. Our dollar-based net retention rate as of December 31, 2022 and 2021 was 119% and 123%, respectively, for paying customers. As of December 31, 2022 and 2021, we had 480 and 385 customers, respectively, that each represented greater than \$100,000 in ARR and 30 and 29 customers, respectively, that each represented greater than \$1 million in ARR, demonstrating how critical we are to our customers' success.



- **Extend Product Leadership with Continued Investment in Our Platform.** We see significant opportunities to leverage the same data stream powering our core analytics suite to layer on additional products that address adjacent high-value use cases desired by our customers. As a product-led company, the valuable feedback loop we have established with our own customers helps us identify product and platform enhancements best aligned to drive our future growth.
- **Expand our Global and Partnership Reach.** We believe there is significant potential to continue to grow our business in international markets because of the universal nature of the problem we help to solve. For the years ended December 31, 2022 and 2021, 38% and 36% of our revenue was generated outside of the United States, respectively. Additionally, we plan to continue to invest in our partner network to strengthen our ecosystem and extend our reach.

Our Platform and Technology

Data enters our system through many sources, including our software-development kits (“SDKs”), server side, and integration with our partner systems. It then goes through the processing and cleanup stage before being stored in our behavioral graph which is a user-oriented distributed columnar data store. Our Behavioral Graph powers the analytics, collaboration, prediction, and recommendation platform.

We have designed a system that can process large amounts of data and provide an interactive query/response model. Instead of building a general purpose data storage and processing system similar to data warehouses that would require our users to know SQL and wait a long time to get answers to their analytics-oriented join-heavy queries, we have built a brand new system from the ground up focused on end-user behavior analysis that is optimized to ingest, process, and store it in a specific format, and structure to power low latency query/response.

Real-time Data Management

The underpinning of the Digital Analytics Platform is our real-time Data Management layer. This layer includes our core data platform that offers our customers a number of tools and capabilities for ingesting data to us, resolving identity to create a consistent and unique identity, and managing customer and product data.

Key differentiators include:

- **Structured, event-based schema.** We ingest and process event data. Each event represents an interaction that an end user or device performed on our customers' products. Event data has information about the event as well as the end user and device that has performed the event, and it follows a specific but flexible schema. As event data enters our platform, it gets ingested, sanitized, enriched, and canonicalized and is stored in an optimized format in our behavioral graph to enable low latency query/response.
- **Breadth and scale of digital sources.** We have a number of tools and offerings such as several client-side and server-side SDKs, APIs, and integration with customer storage systems such as Amazon S3 and data warehouses that allows us to ingest from a number of sources, including mobile applications, websites, and backend services.
- **Identity resolution for a multi-platform world.** In the multi-platform world, end users interact with our customers' products through many devices; it is logged in at times and anonymous at other times. Our identity resolution service automatically captures one consistent view of the customer's usage across platforms through continuous event streaming as users log in and out of customers' products, browse anonymously, and use multiple devices.
- **Data governance and observability.** With the rapid expansion of customer and product data, organizations require tools to manage the complexity and maintain trust. Our governance toolkit provides a two-pronged approach that is proactive – through schema planning, validation and error reporting, and reactive – through retroactive data merges and schema changes. Our observability gives data leaders insights and visibility into how data is being used by their organization so they can make informed decisions about what to track.

Amplitude Behavioral Graph

Event data is fed into the Amplitude Behavioral Graph, which is purpose-built to handle the scale, speed, and complexity of user behavior in digital products. It is the foundation of all of the analytics and personalization applications and is now an integral part of the Digital Analytics Platform.

Key differentiators include:

- **Complex distributed joins.** The most important user behavior questions involve looking at many different points in a user's journey to answer, traditionally referred to as "joins" in SQL-based systems. At scale, this must be done in a distributed manner, and the more sophisticated the product the more complex the questions become. We built a database from the ground up using state-of-the-art columnar storage techniques and embedded it at every layer with knowledge of behavioral data and questions –for example pre-partitioning data by user and caching partial, reusable computations. We can express the varied semantics of product questions while running at the speed of native code, allowing us to answer customers' questions in seconds.
- **Real-time data observation.** We built our database to match the speed at which digital products evolve. We use a lambda architecture with separate real-time and batch processing layers so that data is not only available for querying within seconds, but also optimized for long-term trend analysis.
- **Multi-tenancy and scale.** At any point in time, there are hundreds of queries running simultaneously on our database, each of varying cost and complexity. We use a multi-tenant architecture to achieve economies of scale, and we have designed a differentiated throttling mechanism in order to isolate the effects of customers' queries on each other.
- **AutoML.** Using our structured, event-based schema and database that is embedded with an understanding of behavioral data, we have automated the most challenging part of ML pipelines and feature extraction. Our Behavioral Graph can generate a meaningful and robust set of thousands of features for each user in the system, which is used for a variety of applications. By having this automation with little to no customer input, we can offer truly self-service ML via AutoML.

Our Customers

Our Digital Analytics Platform is used globally by organizations of all sizes and across a vast range of industries. As of December 31, 2022 and 2021, we had 1,994 and 1,597 paying customers, respectively, representing year-over-year growth of 25%, and 28 and 26 of the Fortune 100, respectively. We believe that our Digital Analytics Platform can help organizations of all sizes, from the smallest startups to the largest global organizations, unleash the power of digital analytics to drive business outcomes and deliver value to customers. We continue to increase the number of customers who have entered and grown into larger subscriptions with us. As of December 31, 2022 and 2021, we had 480 and 385 customers, respectively, that each represented greater than \$100,000 in ARR, representing a 25% increase year-over-year. Additionally, we had 30 and 29 customers, respectively, that each represented greater than \$1 million in ARR, up 3% year-over-year. The number of customers representing greater than \$100,000 and \$1 million in ARR demonstrates the strategic importance of our platform and our ability to both initially land significant accounts and grow them over time.

Sales and Marketing

Our sales and marketing efforts focus on landing customer accounts by addressing an initial digital analytics use case across one or more digital products and expanding those relationships over time as we deliver ongoing value and meet a greater portion of our customers' digital analytics needs.

We employ an efficient, multi-pronged go-to-market strategy combining direct sales (including field and inside sales), product-led growth initiatives (including subscription plans to meet the needs of a diverse range of companies), and marketing initiatives to supplement our sales efforts. Our field sales personnel focus on attracting new customers as well as expanding usage within our existing customer base. Our sales team is supported by business and sales development professionals and solution consultants who facilitate the sales process through identifying use cases based on customer needs, assessing requirements, addressing security and technical questions, consulting on customers' data stacks, and finding additional expansion use cases.

In accordance with our ethos to empower companies of all sizes to unleash digital analytics to drive their business, we offer a variety of free and paid plans depending on our customers' needs. For startups, we offer a *Scholarship* plan, which consists of a self-serve, free one-year subscription to our *Growth* plan, to help them turbo-charge their digital analytics efforts. For larger commercial companies and organizations, we offer both free and paid plans. Our free, self-serve *Starter* plan allows access to a limited set of core offerings, including our leading Analytics offering, and serves as effective brand marketing and a low friction model for getting a single team started with Amplitude, which can also create a glide path to conversion into one of our paid plans. Our paid *Growth* and *Enterprise* plans provide access to additional capabilities, functionality, and volume to meet the needs of larger and more complex use cases.

Our professional services team helps customers design and execute their digital analytics, product-led growth, analytics, and personalization projects. We offer our customers implementation, training, and related services to help them realize the full benefits of our Digital Analytics Platform. We also work closely with our partner ecosystem to help them deploy our solutions and build our technology into their services offerings, providing opportunities for us to increase the breadth and depth of our deployment within new and existing customers.

We have approximately 50 partners in the Amplitude partner ecosystem program, which provides solutions to help accelerate our customers' digital analytics initiatives. Our ecosystem consists of the following:

- **Solutions partners**, including global systems integrators, consultancies, and digital agencies, partner with Amplitude to provide business transformation strategy, best practices, and support.
- **Technology partners**, who integrate their software with the Digital Analytics Platform to build and deliver end-to-end enterprise technology solutions. Amplitude has dozens of technology integrations and partners across more than a dozen software categories, including marketing automation, attribution tools, data warehouses, and customer data platforms, to name a few.

Our marketing efforts focus on driving our go-to-market demand generation engine across all market segments and across both new and existing customers, as well as raising our brand profile globally. To do this, we utilize a combination of online and offline marketing programs such as online advertising, blogs, public relations, social media, educational white papers and webinars, product demos, workshops, roundtables, and customer case studies. These gatherings focus on attracting a broad mix of prospects and customers to focus on digital analytics and Amplitude product education, and the sharing of customer success stories and best practices.

As of December 31, 2022, we had 431 employees in our sales and marketing organization.

Human Capital Management

We believe that our company culture enables us to achieve our mission, is a core driver of our business success, and is a significant reason why people choose to build their careers at Amplitude. We are pioneers in this field who endeavor to make product, business, and people decisions that allow us to carry out our mission while staying true to our values. We believe Diversity, Equity, and Inclusion (“DEI”) are rooted in the fabric of our culture. We advance our culture of belonging—in which Humility, Ownership, and Growth Mindset are at the center—by coming together to make a collective impact in our work and our communities. Through strategic initiatives and partnerships, policy development and stewardship, innovation and education, our DEI-embedded culture shapes our future to one where all employees can fully realize their potential.

- **Humility.** No ego – we operate from a place of empathy and openness and seek to understand many points of view.
- **Ownership.** We take the initiative to solve problems that drive our shared company success.
- **Growth Mindset.** We’re tenacious in the face of challenges and seek input in order to grow ourselves and others.

We use our values as the cornerstone for setting the tone for how we show up with one another and our customers. We are intentional about embedding them as the lens through which we operate. We are deliberate in operationalizing our values through our selection of talent, recognizing, rewarding, and how we celebrate. We regularly recognize and celebrate those who are exemplary models of our values through our Quarterly Values Awards. We believe that it is this focus on our values that is what sets us apart in building a culture of empathy and accountability.

In 2021, we were recognized by San Francisco Business Times and Built In as “Best Places to Work in the Bay Area” and “Best Midsize Places to Work in the Bay Area,” respectively. Additionally, Business Insider has included us in their “Startups to bet your career on” list.

In 2020, together with four of our ecosystem partners, we announced the launch of a joint-initiative called Tech for Black Founders. Our mission is to create an ecosystem that provides resources and technology to empower Black-founded businesses and level the playing field for underserved founders. Our shared goal is to help Black-founded businesses accelerate growth and scale as rapidly and efficiently as possible.

We operate from a place of openness, taking initiative to drive our shared company success, while seeking input in order to grow ourselves and our customers. Our values fuel our growth, guiding us as we learn, succeed, and celebrate together.

As of December 31, 2022, we had a total of 737 employees, including 156 employees located outside the United States. None of our employees is represented by a labor union or covered by collective bargaining agreements. We have not experienced any work stoppages. We consider our relationship with our employees to be good.

Research and Development

Our research and development efforts are focused on continued innovation, enhancing our platform features and functionalities, and expanding the services we offer to increase market penetration and deepen our relationships with our customers. We believe the timely development of new, and the enhancement of our existing platform features and services is essential to maintaining our competitive position. We continually incorporate feedback and new cases from our customers into our platform. As of December 31, 2022, we had 185 employees in our research and development organization. We intend to continue to invest in our research and development capabilities to extend our platform. Research and development expenses totaled \$80.6 million and \$48.3 million in years ended December 31, 2022 and 2021, respectively.

Competition

The market for digital analytics is new and evolving. Businesses have used a range of point solutions built for other use cases in an effort to address their needs, none of which offer the breadth and depth of capabilities offered by our Digital Analytics Platform. However, we do compete with a number of companies, ranging from large and diversified businesses to smaller start-ups, that offer certain solutions and functionality similar to aspects of our platform. These competitors include the following:

- Product analytics point tools such as Pendo, Mixpanel, and Heap;
- Web and marketing analytics vendors such as Adobe Experience Cloud and Google Analytics; and
- Business intelligence solutions such as Looker and Tableau.

The principal competitive factors for companies in our industry are:

- Powerful and flexible infrastructure that can ingest and manage a broad variety and large volume of data;
- Platform functionality, including speed, scale, and breadth and depth of insights;
- Size of end-user base and level of customer adoption;
- Enterprise-grade technology that is secure and reliable;
- Self-service offerings;
- Ability to enable collaboration across numerous teams;
- Ease of integration and deployment with existing IT infrastructure;
- Mindshare with line of business and non-technical teams;
- Ability to address a variety of evolving customer needs and use cases;
- Price and total cost of ownership;
- Brand awareness and reputation;
- Quality of professional services and customer support;
- Strength of sales and marketing efforts; and
- Adherence to industry standards and certifications.

On the basis of the factors above, we believe that we compare favorably to our competitors. However, some of our actual and potential competitors have advantages over us, such as substantially greater financial, technical, and other resources, such as larger sales forces and marketing budgets, greater brand recognition, broader distribution networks and global presence, longer operating histories, more established relationships with current or potential customers and commercial partners, and more mature intellectual property portfolios. They may be able to leverage these resources to gain market share and prevent potential customers from purchasing our products. Additionally, we expect the industry to attract new entrants, who could compete with our business and introduce new offerings. As we scale and expand our business, we may enter new markets and encounter additional competition.

Intellectual Property

Our intellectual property is an important part of our business. We rely on patent, copyright, trade secret, and trademark laws, as well as confidentiality agreements, license agreements, intellectual property assignment agreements, and similar contracts, to establish and protect our proprietary rights. We maintain a policy requiring our employees, contractors, consultants, and other third parties to enter into confidentiality and proprietary rights agreements to control access to our proprietary information. However, these laws, agreements, and policies provide only limited protection, and our intellectual property rights and other proprietary rights may still be challenged, invalidated, infringed, or misappropriated in the United States and in foreign jurisdictions. The laws of certain jurisdictions do not protect proprietary rights to the same extent as the laws of the United States, and it may therefore be difficult, impossible, or otherwise not commercially reasonable to protect our proprietary rights in certain jurisdictions. In addition, we use software components licensed from third parties under open-source software licenses, which licenses generally do not contain warranties or indemnifications from the licensors with respect to infringement, security vulnerabilities, or other issues. As a result, we would not have contractual protections if our use of the open-source software licensed from third parties infringes third-party intellectual property rights or if we encounter other issues with respect to our use of third-party open-source software. We also publicly license our SDK and certain other components to third parties pursuant to open-source licenses. The value of the software we publicly license to third parties pursuant to open-source licenses may be diminished given that such licenses grant those third parties broad rights to modify and distribute such software and could allow a competitor to more easily develop a competing product by examining our software.

We pursue the registration of our domain names, trademarks, and service marks and pursue patent protection of our technology in the United States and in certain locations outside the United States. As of December 31, 2022, we had one issued U.S. patent, six U.S. and seven foreign patent applications pending. We continually review our development efforts to assess the existence and patentability of new intellectual property, and the extension of our intellectual property rights abroad. As of December 31, 2022, we had five registered trademarks in the United States and 11 registered trademarks internationally.

Data Privacy & Security

Numerous state, federal, and foreign laws and regulations, including consumer protection laws and regulations, including data breach notification laws, govern the collection, dissemination, processing, use, access to, confidentiality, and security of personal information and could apply to our operations or the operations of our partners. In particular, certain state and non-U.S. laws, such as the California Consumer Privacy Act of 2018 (the “CCPA”), the European Union General Data Protection Regulation (the “GDPR”), and the GDPR, set strict standards for maintaining the privacy and security of personal information. Many of these laws differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts. Failure to comply with these laws, where applicable, can result in the imposition of significant civil and/or criminal penalties and private litigation. In sum, privacy and security laws, regulations, and other obligations are constantly evolving, may conflict with each other, and can result in investigations, proceedings, or actions that lead to significant civil and/or criminal penalties and restrictions on data processing.

Corporate Information

We were incorporated in the State of Delaware in November 2011 as Sonalight, Inc. and founded our Amplitude business in 2012. In December 2014, we changed our name to Amplitude, Inc. Our principal executive offices are located at 201 Third Street, Suite 200, San Francisco, California 94103. Our telephone number is (415) 231-2353 and our website address is www.amplitude.com. Information contained on, or that can be accessed through, our website is not incorporated by reference into this Annual Report on Form 10-K.

Available Information

Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to these reports filed pursuant to Sections 13(a) and 15(d) of the Exchange Act are filed with the SEC. Such reports and other information filed or furnished by us with the SEC are available free of charge on our investor relations website at investors.amplitude.com, as soon as reasonably practicable after we file such material with, or furnish it to, the SEC, when such reports are available on the SEC’s website at www.sec.gov.

Item 1A. Risk Factors.

RISK FACTORS

A description of the risks and uncertainties associated with our business is set forth below. You should carefully consider the risks and uncertainties described below, together with all of the other information in this Annual Report on Form 10-K, including our consolidated financial statements and related notes and the section titled “Management’s Discussion and Analysis of Financial Condition and Results of Operations.” The occurrence of any of the events or developments described below could materially and adversely affect our business, financial condition, results of operations, and growth prospects. In such an event, the trading price of our Class A common stock could decline, and you may lose all or part of your investment. Additional risks and uncertainties not presently known to us or that we currently believe are not material may also impair our business, financial condition, results of operations, and growth prospects.

Risks Related to Our Business and Industry

We have a limited operating history and have been growing rapidly over the last several years, which makes it difficult to forecast our future results of operations and increases the risk of your investment.

Our revenue was \$238.1 million and \$167.3 million for the fiscal years ended December 31, 2022 and 2021, respectively. However, you should not rely on our historical revenue growth as an indication of our future performance.

As a result of our limited operating history and our rapid growth over the last several years, our ability to accurately forecast our future results of operations is limited and subject to a number of uncertainties, including our ability to effectively plan for and model future growth.

Our revenue growth rate may decline over time. In future periods, our revenue growth could slow or our revenue could decline for a number of reasons, including slowing demand for our Digital Analytics Platform, increased competition, changes to technology, a decrease in the growth of our overall market, or our failure, for any reason, to manage our growth effectively or continue to take advantage of growth opportunities. We have also encountered, and will continue to encounter, risks and uncertainties frequently experienced by growing companies in rapidly changing industries, such as the risks and uncertainties described in this Annual Report on Form 10-K. If our assumptions regarding these risks and uncertainties and our future revenue growth are incorrect or change, or if we do not address these risks successfully, our financial condition and results of operations could differ materially from our expectations, and our business could be materially adversely affected.

We have a history of losses. As our costs increase, we may not be able to generate sufficient revenue to achieve and sustain profitability.

We have experienced net losses in each period since inception. We generated net losses of \$93.4 million and \$75.0 million for the fiscal years ended December 31, 2022 and 2021, respectively. As of December 31, 2022, we had an accumulated deficit of \$273.2 million. We expect our costs and expenses to increase in future periods. In particular, we intend to continue to invest significant resources in:

- development of our Digital Analytics Platform, including investments in our research and development team, the development or acquisition of new products, features, and functionality, and improvements to the scalability, availability, and security of our platform;
- our technology infrastructure, including expansion of our activities in third-party data centers that we may lease, enhancements to our network operations and infrastructure, and hiring of additional employees;
- sales and marketing;
- additional international expansion, in an effort to increase our customer base and sales; and
- general administration, including legal, accounting, and other expenses.

In addition, part of our business strategy is to focus on our long-term growth. As a result, our profitability may be lower in the near term than it would be if our strategy was to maximize short-term profitability. Significant expenditures on sales and marketing efforts, expanding our platform, products, features, and functionality, and expanding our research and development, each of which we intend to continue to invest in, may not ultimately grow our business or result in long-term profitability. If we are ultimately unable to achieve profitability at the level anticipated by industry or financial analysts and our stockholders, the trading price of our Class A common stock may decline.

Our efforts to grow our business may be costlier than we expect, or our revenue growth rate may be slower than we expect, and we may not be able to increase our revenue enough to offset the increase in operating expenses resulting from these investments. If we are unable to continue to grow our revenue, the value of our business and Class A common stock may significantly decrease.

Our business depends on our existing customers renewing their subscriptions and purchasing additional subscriptions from us as well as attracting new customers. Any decline in our customer retention or expansion of our commercial relationships with existing customers or an inability to attract new customers would materially adversely affect our business, financial condition, and results of operations.

In order for us to maintain or improve our revenue growth and our results of operations, it is important that our customers renew their subscriptions when existing contract terms expire and that we expand our commercial relationships with our existing customers and attract new customers. We also seek to convert customers on our free-tier, self-service option to paid subscription contracts. Our customers have no obligation to renew their subscriptions, and our customers may not renew their subscriptions with similar contract periods or at all. Some of our customers have elected not to renew their agreements with us, and it is difficult to accurately predict long-term customer retention. In addition, our ability to attract new customers will depend on market acceptance of our Digital Analytics Platform and the successful implementation of our marketing strategy.

Our customer retention and expansion and the rate at which we attract new customers may decline or fluctuate as a result of a number of factors, including our customers' satisfaction with our Digital Analytics Platform; our support capabilities; our prices and pricing plans; the prices and value of competing products; reductions in our customers' spending levels; new product releases; mergers and acquisitions affecting our customer base; or the effects of global economic conditions. We may be unable to timely address any retention issues with specific customers, which could materially adversely affect our results of operations. If our customers do not purchase additional subscriptions or renew their subscriptions, or if they renew on less favorable terms, or if we are unable to attract new customers, our revenue may decline or grow less quickly, which would materially adversely affect our business, financial condition, and results of operations.

We expect fluctuations in our financial results and key metrics, making it difficult to project future results. If we fail to meet the expectations of securities analysts or investors with respect to our results of operations, the trading price of our Class A common stock could decline.

Our results of operations and key metrics have fluctuated in the past and are expected to fluctuate in the future due to a variety of factors, many of which are outside of our control. As a result, our past results may not be indicative of our future performance. In addition to the other risks described herein, other factors that may cause our results of operations or key metrics to fluctuate include:

- fluctuations in demand for, or pricing of, our Digital Analytics Platform, including as a result of our introduction of new products, features, and functionality;
- fluctuations in usage of our Digital Analytics Platform;
- our ability to attract new customers;
- our ability to retain existing customers;
- customer expansion rates;
- investments in new products, features, and functionality;
- the timing of our customers' purchases;
- the speed with which customers are able to migrate data onto our platform after purchasing capacity;
- awareness of our brand on a global basis;
- fluctuations or delays in purchasing decisions in anticipation of new products, features, or functionality developed or acquired by us or our competitors;
- changes in customers' budgets and in the timing of their budget cycles and purchasing decisions;
- our ability to control costs, including our operating expenses;
- the amount and timing of costs associated with our cloud computing infrastructure, particularly the cloud services provided by Amazon Web Services ("AWS");
- the amount and timing of payment for operating expenses, particularly research and development and sales and marketing expenses;

- the amount and timing of non-cash expenses, including stock-based compensation, goodwill impairments, and other non-cash charges;
- the amount and timing of costs associated with recruiting, training, and integrating new employees and retaining and motivating existing employees;
- the ability to identify and complete, and the effects of, mergers, acquisitions, or strategic partnerships, and the ensuing integration efforts;
- general economic, market, and industry conditions (including the current inflationary economic environment, rising interest rates, and a potential recession), both domestically and internationally, as well as economic conditions specifically affecting industries in which our customers participate, and related difficulties in collections;
- the potential adverse impact of climate change, natural disasters, health epidemics, including the COVID-19 pandemic, political and social instability, including acts of war or other armed conflicts, such as Russia's invasion of Ukraine, and terrorist activities, on our business, operations, and the markets and communities in which we and our customers and partners operate and the disruption these events may cause to the global economy;
- the impact of new accounting pronouncements;
- changes in regulatory or legal environments that may cause us to incur, among other things, expenses associated with compliance, particularly with respect to compliance with evolving privacy and data protection laws and regulations, as well as export control, economic and trade sanctions, anti-corruption, and anti-money laundering laws;
- the overall tax rate for our business, which may be affected by the mix of income we earn in the United States and in jurisdictions with comparatively lower tax rates, the effects of stock-based compensation, and the effects of changes in our business;
- the impact of changes in tax laws or judicial or regulatory interpretations of tax laws, which are recorded in the period such laws are enacted or interpretations are issued and may significantly affect the effective tax rate of that period;
- fluctuations in currency exchange rates and changes in the proportion of our revenue and expenses denominated in foreign currencies;
- changes in the competitive dynamics of our market, including consolidation among competitors or customers; and
- significant security breaches of, technical difficulties with, or interruptions to, the delivery and use of our platform.

Any of these and other factors, or the cumulative effect of some of these factors, may cause our results of operations to vary significantly. If our results of operations fall below the expectations of investors and securities analysts who follow our stock, the trading price of our Class A common stock could decline substantially, and we could face costly lawsuits, including securities class action litigation.

We expect to continue to focus on sales to larger organizations and may become more dependent on those relationships, which may increase the variability of our sales cycle and our results of operations.

As we continue to focus on, and may become more dependent on, sales to larger organizations, we expect our sales cycle to lengthen and become less predictable. We plan our expenses based on certain assumptions about the length and variability of our sales cycle. These assumptions are based upon historical trends for sales cycles and conversion rates associated with our existing customers. Any shift in our sales cycle may adversely affect our financial results. Factors that may influence the length and variability of our sales cycle include:

- the need to educate prospective customers about the uses and benefits of our Digital Analytics Platform;
- the discretionary nature of purchasing and budget cycles and decisions;
- the competitive nature of evaluation and purchasing processes;
- evolving functionality demands;
- announcements or planned introductions of new products, features, or functionality by us or our competitors; and
- lengthy purchasing approval processes.

Our increasing dependence on sales to larger organizations may increase the variability of our financial results. If we are unable to close one or more expected significant transactions with these customers in a particular period, or if an expected transaction is

delayed until a subsequent period, our results of operations for that period, and for any future periods in which revenue from such transaction would otherwise have been recognized, may be adversely affected.

We recognize revenue over the term of our customer contracts. Consequently, downturns or upturns in new sales may not be immediately reflected in our results of operations and may be difficult to discern.

We generally recognize subscription revenue from customers ratably over the contracted period. As a result, a portion of the revenue we report in each quarter is derived from the recognition of deferred revenue relating to subscriptions entered into during previous quarters. Consequently, a decline in new or renewed subscriptions in a given quarter may have a small impact on our revenue results for that quarter. However, such a decline will negatively affect our revenue in future quarters. Accordingly, the effect of significant downturns in sales and market acceptance of our Digital Analytics Platform, including as a result of a general economic downturn, and potential changes in our pricing policies or rate of customer expansion or retention, may not be fully reflected in our results of operations until future periods. We may also be unable to reduce our cost structure in line with a significant deterioration in sales. In addition, a significant majority of our costs are expensed as incurred, while revenue is recognized over the contracted period of the agreement with our customer. As a result, increased growth in the number of our customers could continue to result in our recognition of more costs than revenue in the earlier periods of the terms of our customer agreements. Our subscription model also makes it difficult for us to rapidly increase our revenue through additional sales in any period, as revenue from new customers must be recognized over the applicable subscription term.

Unfavorable conditions in our industry or the global economy, or reductions in software spending, could limit our ability to grow our business and materially adversely affect our business, financial condition, and results of operations.

Our results of operations may vary based on the impact of changes in our industry or the global economy on us or our customers or potential customers. Our ability to grow our revenue and the profitability of our business depends, in part, on demand for software applications generally. Historically, during economic downturns there have been reductions in spending on software applications and services generally, as well as pressure for extended billing terms and other financial concessions. To the extent that economic conditions deteriorate in the United States or abroad, including as a result of inflationary pressures and the responses by central banking authorities to control such inflation, rising interest rates, debt and equity market fluctuations, diminished liquidity and credit availability, increased unemployment rates, decreased investor and consumer confidence, political turmoil, supply chain challenges, natural catastrophes and the effects of climate change, regional and global conflicts, and terrorist attacks on the United States, Europe, the Asia Pacific region, or elsewhere, our customers and prospective customers may go out of business or elect to decrease their budgets, which would limit our ability to grow our business and materially adversely affect our financial condition and results of operations. For example, historically high levels of inflation and rising interest rates in the United States have begun to affect businesses across many industries, including ours, by increasing the costs of labor, employee healthcare, components, and freight and shipping, which may further constrain our customers' or prospective customers' budgets. To the extent there is a sustained general economic downturn and our Digital Analytics Platform is perceived by customers or potential customers as costly, or too difficult to deploy or migrate to, our revenue may be disproportionately affected by delays or reductions in spending on software applications. In addition, our competitors, many of whom are larger and have greater financial resources than we do, may respond to challenging market conditions by lowering prices in an attempt to attract our customers or prospective customers, and they may be less dependent on key industry events to generate sales for their products. Further, macroeconomic uncertainty may result in an increased pace of consolidation in certain industries. If this were to occur, such consolidation may result in reduced overall spending on our services, particularly if our customers are acquired by organizations that do not use our services. We cannot predict the timing, strength, or duration of any economic slowdown, instability, or recovery, generally or within any particular industry. If the economic conditions of the general economy or markets in which we operate worsen from present levels, our business, financial condition, and results of operations could be adversely affected.

If the market for SaaS applications develops more slowly than we expect or declines, our business would be adversely affected.

Our success will depend to a substantial extent on the widespread adoption of SaaS applications in general, and of SaaS applications that look to solve aspects of digital analytics. Many organizations have invested substantial personnel and financial resources to integrate traditional on-premise business software applications into their businesses, and therefore may be reluctant or unwilling to migrate to SaaS applications. It is difficult to predict customer adoption rates and demand for our Digital Analytics Platform, the future growth rate and size of the SaaS applications market, or the entry of competitive applications. The expansion of the SaaS applications market depends on a number of factors, including the cost, performance, and perceived value associated with SaaS, as well as the ability of SaaS providers to address data security and privacy concerns. Additionally, government agencies have adopted, or may adopt, laws and regulations, and companies have adopted and may adopt policies regarding the collection and use of personal information obtained from consumers and other individuals, or may seek to access information on our platform, either of which may reduce the overall demand for our Digital Analytics Platform. If we or other SaaS providers experience data security incidents, loss of customer data, disruptions in delivery, or other problems, the market for SaaS applications, including our Digital

Analytics Platform, may be negatively affected. If SaaS applications do not continue to achieve market acceptance, or there is a reduction in demand for SaaS applications caused by a lack of customer acceptance, technological challenges, weakening economic conditions, data security or privacy concerns, governmental regulation, competing technologies and products, or decreases in spending on SaaS applications, it would result in decreased revenue and our business, financial condition, and results of operations would be materially adversely affected.

The market in which we operate is highly competitive, and if we do not compete effectively, our business, financial condition, and results of operations could be materially adversely affected.

The market for applications that look to address digital analytics is fragmented, rapidly evolving, and highly competitive, with relatively low barriers to entry. As this market continues to mature and new technologies and competitors enter the market, we expect competition to intensify. We face competition from:

- large companies that have greater name recognition, much longer operating histories, more established customers and commercial partners, and significantly greater resources than we do, such as larger sales forces and marketing budgets, broader distribution networks and global presence, and more mature intellectual property portfolios;
- in-house software systems;
- large integrated systems vendors;
- smaller companies offering alternative SaaS applications; and
- new or emerging entrants seeking to develop competing technologies.

Our competitors may be able to respond more quickly and effectively than we can to new or changing opportunities, technologies, standards, or customer requirements. With the introduction of new technologies, the evolution of our Digital Analytics Platform, and new market entrants, we expect competition to intensify in the future. Pricing pressures and increased competition generally could result in reduced sales, reduced margins, losses, or the failure of our Digital Analytics Platform to achieve or maintain more widespread market acceptance, any of which could harm our business.

Our competitors vary in size and in the breadth and scope of the products and services they offer. Further, other established SaaS providers not currently focused on digital analytics may expand their services to compete with us. Many of our current and potential competitors have established marketing relationships, access to larger customer bases, pre-existing customer relationships, and major distribution agreements with consultants, system integrators, and resellers. Certain of our competitors have partnered with, or have acquired, and may in the future partner with or acquire, other competitors to offer services, leveraging their collective competitive positions, which makes, or would make, it more difficult to compete with them. For all of these reasons, we may not be able to compete successfully against our current and future competitors, which would harm our business. For more information about the competitive landscape in which we operate, see “Part I, Item 1. Business—Competition” in this Annual Report on Form 10-K.

If we fail to innovate in response to changing customer needs and technology developments and other market requirements, our business, financial condition, and results of operations would be materially adversely affected.

Our ability to attract new customers and retain and increase revenue from existing customers depends in large part on our ability to enhance and improve our Digital Analytics Platform and to introduce new products, features, and functionality. In order to grow our business, we must develop products, features, and functionality that reflect the changing needs of customers, and we believe that the pace of innovation will continue to accelerate. The success of any enhancement to our Digital Analytics Platform depends on several factors, including timely completion, adequate quality testing, and market acceptance. Any new product, feature, or functionality that we develop may not be introduced in a timely or cost-effective manner, may contain defects, or may not achieve the market acceptance necessary to generate sufficient revenue. If we are unable to successfully develop new products, features or functionality, enhance our Digital Analytics Platform to meet customer requirements, or otherwise gain market acceptance, our business, financial condition, and results of operations could be materially adversely affected.

Because our Digital Analytics Platform is available over the internet, we need to continuously modify and enhance it to keep pace with changes in internet-related hardware, software, analytics, and database technologies and standards. In addition, we need to continue to invest in technologies, services, and partnerships that increase the types of data processed on our platform and the ease with which customers can send data into our platform. We must also continue to enhance our data sharing and data exchange capabilities so customers can share their data with internal business units, customers, and other third parties. In addition, our platform requires third-party public cloud infrastructure to operate. We must continue to innovate to optimize our offerings for these and other public clouds that our customers require, particularly as we expand internationally. Further, the markets in which we compete are subject to evolving industry standards and regulations, resulting in increasing data governance and compliance requirements for us and

our customers. To the extent we expand into the public sector and other highly regulated industries, our Digital Analytics Platform may need to address additional requirements specific to those industries.

If we are unable to enhance our Digital Analytics Platform to keep pace with these rapidly evolving customer requirements, or if new technologies emerge that are able to deliver competitive products at lower prices, more efficiently, more conveniently, or more securely than our platform, our business, financial condition, and results of operations would be materially adversely affected.

If we fail to effectively manage our growth and changes to our business over time, our business, financial condition, and results of operations would be materially adversely affected.

We have experienced and expect to continue to experience rapid growth in our business, personnel, and operations, which has placed, and may continue to place, significant demands on our management and operational and financial resources. We intend to continue to invest to expand our business, personnel, and operations, which may cause our margins to decline, and any investments we make will occur in advance of experiencing the benefits from such investments, making it difficult to determine in a timely manner if we are efficiently allocating our resources. As usage of our Digital Analytics Platform grows, we will need to devote additional resources to improving our platform's features and functionality, developing or acquiring new products, and maintaining infrastructure performance. Even if we are able to upgrade our systems and expand our personnel, any such expansion will be expensive and complex, requiring management's time and attention. We could also face inefficiencies or operational failures as a result of our efforts to scale our infrastructure. Moreover, there are inherent risks associated with upgrading, improving, and expanding our information technology systems. We cannot be sure that the expansion and improvements to our infrastructure and systems will be fully or effectively implemented on a timely basis, if at all. In addition, we will need to appropriately scale our internal business systems and our services organization, including customer support, to serve our growing customer base, particularly as our customer demographics change over time. Managing these changes will require significant expenditures and allocation of valuable management resources. If we fail to successfully manage our anticipated growth and changes to our business, the quality of our products may suffer, which could negatively affect our brand and reputation and harm our ability to attract new customers and retain existing customers. As we continue to grow, we may need to implement more complex organizational management structures or adapt our corporate culture and work environments to changing circumstances, which could have an adverse impact on our corporate culture. Any failure to preserve our culture could harm our business, including our ability to retain and recruit personnel, innovate and operate effectively, and execute on our business strategy.

The COVID-19 pandemic or similar outbreaks could have an adverse impact on our business and operations, and the markets and communities in which we, our partners, and customers operate, and the impact of the pandemic is difficult to assess or predict.

The continued impact and ultimate duration of the COVID-19 pandemic on the global economy and our business are difficult to assess or predict. Actual and potential impacts include:

- Our customers and prospective customers may experience slowdowns in their businesses which, in turn, may result in reduced demand for our Digital Analytics Platform, lengthening of sales cycles, loss of customers, and difficulties in collections.
- Our employees are working from home significantly more frequently than they did historically prior to the COVID-19 pandemic, which may result in decreased employee productivity and morale with increased unwanted employee attrition.
- We continue to incur fixed costs, particularly for real estate, and are deriving reduced or no benefit from those costs.
- We may continue to experience disruptions to our growth planning, such as for facilities and international expansion.
- We have incurred, and may continue to incur, costs associated with returning to work at our offices around the world, including changes to the workplace, such as space planning, food service, and amenities.
- We may be subject to legal liability for unsafe workplace claims.
- Our critical vendors could go out of business.
- Our in-person marketing events, including customer user conferences, have been cancelled, and we may continue to experience prolonged delays in our ability to reschedule or conduct in-person marketing events and other sales and marketing activities.
- We may be required to continue to conduct or from time to time return to conducting our business on a fully virtual basis, as opposed to the mix of virtual and in-person interactions with customers and partners that our marketing, sales, professional services, and support organizations were accustomed to prior to the COVID-19 pandemic.

Overall, the COVID-19 pandemic largely resulted in favorable trends for our business, as customers were able to leverage the digital analytics of their products as sales increasingly shifted online. It can be difficult to predict customer demand, especially as customers' priorities, resources, and economic outlooks change, along with other shifting market conditions. These shifts have occurred, and may in the future occur, more quickly than we anticipate. For example, as stay-at-home orders, travel restrictions, and other quarantine and isolation measures are lifted, the amount of time that consumers spend interacting with digital products may normalize or decline, which could slow customer demand for our Digital Analytics Platform. If we are unable to respond quickly to rapidly changing market conditions and shifts in customer behavior, our business and results of operations could be harmed, and the trading price of our Class A common stock could be adversely affected.

Although global economic conditions generally improved with the rollout of vaccines, business activity may not recover as quickly as anticipated, including as a result of inflationary pressures and the responses by central banking authorities to control such inflation, rising interest rates, debt and equity market fluctuations, diminished liquidity and credit availability, increased unemployment rates, decreased investor and consumer confidence, political turmoil, and supply chain challenges. Conditions may vary between countries and regions and will be subject to the effectiveness and duration of government policies, vaccine administration rates, and other factors that may not be foreseeable. Vaccines for COVID-19 continue to be administered in the United States and other countries around the world, but the extent and rate of vaccine adoption, the long-term efficacy of these vaccines, and other factors remain uncertain. We currently require employees in North America to be fully vaccinated to utilize our office space or attend in-person company events and have implemented other health and safety protocols, which have created, and may continue to create, additional risks and operational challenges and may require us to make additional investments in the design, implementation, and enforcement of new workplace health and safety protocols. Even if we follow what we believe to be best practices, re-opening our offices could expose our employees, partners, and customers to health risks, and us to associated liability. Furthermore, governmental restrictions, new regulations, or other changing conditions could cause us to temporarily close certain of our offices. We have offered, and plan to continue to offer, a significant percentage of our employees flexibility to shift to a hybrid work arrangement, which may adversely impact the productivity of certain employees and harm our business, including our future results of operations. This may also present risks for our strategy and may present operational, cybersecurity, and workplace culture challenges that may materially adversely affect our business. It is not possible to predict with any certainty the impact that our current policies and protocols could have on our company, our workforce, and our operations. In addition, we cannot predict what policies we may determine to, or be required to, implement in the future, or the effect thereof on our business, including whether the imposition of certain policies could cause us to lose, or experience difficulties hiring, qualified personnel.

Finally, the effects of the COVID-19 pandemic, or the easing of COVID-19-related restrictions, may also heighten other risks, including significant volatility in global markets and the trading price of our Class A common stock. The extent of the impact that COVID-19 could have on worldwide economic activity generally, and our business in particular, depends on future developments that cannot be accurately predicted at this time, such as the duration and spread of the COVID-19 pandemic, future waves of COVID-19 infections (including the spread of variants or mutant strains of the virus) resulting in additional preventive measures to contain or mitigate the spread of the virus, the extent and effectiveness of containment actions, the administration, adoption, and efficacy of vaccination programs, and the impact of these and other factors on our employees, customers, partners, and vendors. If we are not able to respond to and manage the impact of such events effectively, our business will be harmed. Moreover, to the extent the COVID-19 pandemic materially adversely affects our business, financial condition, and results of operations, it may also have the effect of heightening many of the other risks described in this "Risk Factors" section, including, but not limited to, those related to our ability to expand within our existing customer base, acquire new customers, develop and expand our sales and marketing capabilities, and expand internationally.

If our information technology systems are breached or there is otherwise unauthorized disclosure of or access to customer data, our data, or our platform, our platform may be perceived as insecure, we may lose customers or fail to attract new customers, our reputation and brand may be harmed, and we may incur significant liabilities.

Our platform stores, transmits, and processes our customers' proprietary data, including personal or identifying information of their customers or employees. Unauthorized disclosure of, access to, or security breaches of our platform could result in the loss of data, loss of business, severe reputational damage adversely affecting customer or investor confidence, damage to our brand, diversion of management's attention, regulatory investigations and orders, litigation, indemnity obligations, damages for contract breach, penalties for violation of applicable laws or regulations, significant costs for remediation that may include liability for stolen assets or information and repair of system damage that may have been caused, incentives offered to customers or other business partners in an effort to maintain business relationships after a breach, and other liabilities. We have incurred, and expect to continue to incur, significant expenses to prevent security breaches, including deploying additional personnel and protection technologies, training employees, and engaging third-party experts and consultants. Even though we do not control the security measures of third parties who may have access to our customer data, our data, or our platform, we may be responsible for any breach of such measures or suffer reputational harm even where we do not have recourse to the third party that caused the breach. In addition, any failure by our vendors to comply with applicable law or regulations could result in proceedings against us by governmental entities or others.

Cyberattacks, denial-of-service attacks, ransomware attacks, business email compromises, computer malware, malicious code, viruses, and social engineering (including phishing) are prevalent in our industry and our customers' industries. In addition, we may experience attacks, unavailable systems, unauthorized access to systems or data, or disclosure due to employee theft or misuse, denial-of-service attacks, sophisticated nation-state and nation-state-supported actors, and advanced persistent threat intrusions. Electronic security attacks designed to gain access to personal, sensitive, or confidential data are constantly evolving, and such attacks continue to grow in sophistication. The techniques used to sabotage, or to obtain unauthorized access to, our platform, information technology systems, networks, or physical facilities in which data is stored or through which data is transmitted change frequently, and we may be unable to implement adequate preventative measures or stop security breaches while they are occurring. We may also experience security breaches that may remain undetected for an extended period. Even if identified, we may be unable to adequately investigate or remediate incidents or breaches due to attackers increasingly using tools and techniques that are designed to circumvent controls, to avoid detection, and to remove or obfuscate forensic evidence. As a result of the COVID-19 pandemic, we may also face increased cybersecurity risks due to our reliance on internet technology and the number of our and our service providers' employees who are, and may continue, working remotely, which may create additional opportunities for cybercriminals to exploit vulnerabilities. We have previously been, and may in the future become, the target of cyberattacks by third parties seeking unauthorized access to our or our customers' data or to disrupt our operations or ability to provide our services.

We and certain of our vendors are from time to time subject to cyberattacks and security incidents. While we do not believe that we have experienced any significant system failure, accident, or security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our business operations, whether due to a loss, corruption, or unauthorized disclosure of our trade secrets, personal information, or other proprietary or sensitive information or other similar disruptions. It could also expose us to risks, including an inability to provide our services and fulfill contractual demands, and could cause management distraction and the obligation to devote significant financial and other resources to mitigate such problems, which would increase our future information security costs, including through organizational changes, deploying additional personnel, reinforcing administrative, physical, and technical safeguards, further training of employees, changing third-party vendor control practices, and engaging third-party subject matter experts and consultants and reduce the demand for our technology and services. Because data security is a critical competitive factor in our industry, we make numerous statements in our customer contracts, privacy policies, terms of service, and marketing materials providing assurances about the security of our platform, including detailed descriptions of security measures we employ. Should any of these statements be untrue or become untrue, even in circumstances beyond our reasonable control, we may face claims of misrepresentation or deceptiveness by the U.S. Federal Trade Commission (the "FTC"), state, federal, and foreign regulators, and private litigants.

Further, we have contractual and legal obligations to notify relevant stakeholders of security breaches. Most jurisdictions have enacted laws requiring companies to notify individuals, regulatory authorities, and others of security incidents or data breaches involving certain types of data. In addition, our agreements with certain customers may require us to notify them in the event of a security incident or data breach. Such mandatory disclosures are costly, could lead to negative publicity, may cause our customers to lose confidence in the effectiveness of our security measures, and require us to expend significant capital and other resources to respond to, or alleviate problems caused by, the actual or perceived security incident or data breach and otherwise comply with the multitude of foreign, federal, state, and local laws and regulations relating to the unauthorized access to, or use or disclosure of, personal information. Additionally, as a result of a breach or other security incident, we could be subject to demands, claims, and litigation by private parties and investigations, related actions, and penalties by regulatory authorities. Further, if we fail to detect or remediate a security breach in a timely manner, or a breach otherwise affects a large amount of data of one or more customers, or if we suffer a cyberattack that impacts our ability to operate our platform, we may suffer damage to our reputation and our brand, and our business, financial condition, and results of operations may be materially adversely affected. Further, although we maintain insurance coverage, our insurance coverage may not be adequate for data security breaches, indemnification obligations, or other liabilities. In addition, we cannot be sure that our existing insurance coverage and coverage for errors and omissions will continue to be available on acceptable terms or that our insurers will not deny coverage as to any future claim. Our risks are likely to increase as we continue to expand our platform, grow our customer base, and process, store, and transmit increasingly large amounts of proprietary and sensitive data.

We could suffer disruptions, outages, defects, and other performance and quality problems with our platform or with the public cloud and internet infrastructure on which it relies, which may materially adversely affect our business, financial condition, and results of operations.

Our business and continued growth depend in part on the ability of our customers and prospective customers to access our platform at any time and within an acceptable amount of time. Our agreements with customers typically provide for service-level commitments. If we are unable to meet these commitments or if we suffer unexcused periods of downtime for our platform, we may be contractually obligated to provide financial credits or extend the term of the subscription for the period of unexcused downtime, or our customers may be entitled to terminate their agreements and obtain a pro rata refund. We have in the past provided, and may in the future be required to provide, financial credits and pro rata refunds as a result of not being able to meet these commitments. We have

experienced, and may in the future experience, disruptions, outages, defects, and other performance and quality problems with our platform. We have also experienced, and may in the future experience, disruptions, outages, defects, and other performance and quality problems with the public cloud and internet infrastructure on which our platform relies. These problems can be caused by a variety of factors, including infrastructure changes, introductions of new functionality, vulnerabilities and defects in proprietary and open-source software, human error or misconduct, capacity constraints due to an overwhelming number of users accessing our platform simultaneously, design limitations, or denial-of-service attacks or other security-related incidents. The performance and availability of the cloud computing infrastructure that we use to host our platform and many of the internal tools we use to operate our business is outside our control; therefore, we are not in full control of whether we meet the service-level commitments under our customer agreements. As a result, our business, financial condition, and results of operations could be materially adversely affected if we suffer unscheduled downtime that exceeds the service-level commitments we have made to our customers. Any extended service outages could materially adversely affect our business and reputation.

Our Digital Analytics Platform is proprietary, and we rely on the expertise of members of our engineering, operations, product, and software development teams for its continued performance. It may become increasingly difficult and costly to maintain and improve the performance of our Digital Analytics Platform, especially during peak usage times and as our platform becomes more complex and our user traffic increases. To the extent that we do not effectively address capacity constraints, upgrade our systems as needed, and continually develop our technology and network architecture to accommodate actual and anticipated changes in technology, our business, financial condition, and results of operations may be materially adversely affected.

We depend and rely on third-party hosted cloud services and internet infrastructure in order to operate critical functions of our business. For example, our platform and internal tools use computing, storage capabilities, bandwidth, and other services provided by AWS. If these services become unavailable due to extended outages, interruptions, or because they are no longer available on commercially reasonable terms, our expenses could increase, our ability to manage our business could be interrupted, and our processes for managing sales of and delivering our Digital Analytics Platform could be impaired until we are able to identify, obtain, and implement equivalent services, if we are able to do so at all. Any of these circumstances could materially adversely affect our business, financial condition, and results of operations.

Any disruptions, outages, defects, and other performance and quality problems with our platform or with the public cloud and internet infrastructure on which it relies, or any material change in our contractual and other business relationships with any public cloud providers we contract with, could result in reduced use of our platform, increased expenses, including service credit obligations, and harm to our brand and reputation, any of which could have a material adverse effect on our business, financial condition, and results of operations.

Real or perceived errors, failures, or bugs in our platform could materially adversely affect our business and growth prospects.

Because our platform is complex, undetected errors, failures, vulnerabilities, or bugs may occur, especially when updates are deployed. We have discovered and expect we will continue to discover software errors, failures, vulnerabilities, and bugs in our platform and anticipate that certain of these errors, failures, vulnerabilities, and bugs will only be discovered and remediated after deployment to customers. Software errors, failures, vulnerabilities, and bugs in our platform could materially adversely affect our business and growth prospects.

Any failure to offer high-quality product support may adversely affect our relationships with our customers, our reputation, and our business, financial condition, and results of operations.

In using our Digital Analytics Platform, our customers depend on our product support team to resolve complex technical and operational issues. We may be unable to respond quickly enough to accommodate short-, medium-, and long-term increases in customer demand for product support. We also may be unable to modify the nature, scope, and delivery of our product support to compete with changes in product support services provided by our competitors. Increased customer demand for product support, without corresponding revenue, could increase costs and materially adversely affect our results of operations. Our sales are highly dependent on our business reputation and on positive recommendations from our existing customers. Any failure to maintain high-quality product support, or a market perception that we do not maintain high-quality product support, could materially adversely affect our reputation, our ability to sell our Digital Analytics Platform to our customers and prospective customers, and our business, financial condition, and results of operations.

Incorrect or improper implementation or use of our Digital Analytics Platform could result in customer dissatisfaction and materially adversely affect our business, financial condition, and results of operations.

We often assist our customers in implementing our Digital Analytics Platform (whether through us directly or through a third-party implementation partner), and they may need training in the proper use of our Digital Analytics Platform to maximize its

potential and avoid inadequate performance. If we or our implementation partners fail to train customers on how to efficiently and effectively use our Digital Analytics Platform or we fail to provide adequate product support to our customers, we may lose opportunities for additional subscriptions, customers may choose not to renew or expand the use of our Digital Analytics Platform, we may experience negative publicity or legal claims against us, and our reputation and brand may suffer. Any of these circumstances could materially adversely affect our business, financial condition, and results of operations.

If we fail to integrate our platform with a variety of operating systems, software applications, and platforms that are developed by others, our platform may become less marketable, less competitive, or obsolete, and our business, financial condition, results of operations, and growth prospects could be materially adversely affected.

Our customers and prospective customers expect our Digital Analytics Platform to integrate with a variety of software platforms, and we need to continuously modify and enhance our platform to adapt to changes in software, browser, and database technologies. We have developed our platform to be able to integrate with third-party SaaS applications through the interaction of application programming interfaces (“APIs”). In general, we rely on the fact that the providers of such software systems continue to allow us access to their APIs to enable these custom integrations. We are subject to the standard terms and conditions of such providers, or other agreements we may have with them, which govern the distribution, operation, and fees of such software systems, and which may be subject to change by such providers. As a result of limits or prohibitions by other parties, unacceptable terms, technical difficulties, our failure to recognize demand, or for other reasons, we may not successfully build, deploy, or offer the integrations needed. If we fail to offer a variety of integrations or the integrations that our customers and prospective customers expect and demand, then our Digital Analytics Platform may become less marketable, less competitive, or obsolete, and our business, financial condition, results of operations, and growth prospects could be materially adversely affected.

We do not have the history with our subscription or pricing models necessary to accurately predict optimal pricing necessary to attract new customers and retain existing customers.

We have limited experience with respect to determining the optimal prices for our Digital Analytics Platform and, as a result, we have in the past needed, and expect in the future that we will need, to change our pricing model from time to time. As the market for our Digital Analytics Platform matures, or as new competitors introduce new products or services that compete with ours, we may be unable to attract new customers at the same price or based on the same pricing models as we have used historically. Pricing decisions may also impact the mix of adoption among our subscription plans and negatively impact our overall revenue. Although we occasionally upsell within contract terms based on customer needs, substantially all of our customer contracts have a subscription period of one year or longer, for which we primarily bill annually in advance with no obligation to renew. As a result, potential changes in our pricing policies, or our rate of customer expansion or retention, may not be fully reflected in our results of operations until future periods. Moreover, larger organizations may demand price concessions. As a result, in the future we may be required to reduce our prices, which could materially adversely affect our business, financial condition, and results of operations.

Failure to effectively develop and expand our sales and marketing capabilities, including our relationships with channel partners, could harm our ability to increase our customer base and achieve broader market acceptance of our products and platform.

In order to increase our sales to new and existing customers, we must expand our sales and marketing operations, including our sales force and third-party channel partners, and continue to dedicate significant resources to inbound sales and marketing programs, both domestically and internationally. Our ability to increase our customer base and achieve broader market acceptance of our products will depend, in part, on our ability to effectively organize, focus, and train our sales and marketing personnel. If we are unable to increase adoption of our Digital Analytics Platform by new and existing customers, especially enterprise customers, our business, financial condition, and results of operations may be materially adversely affected.

Our efforts to develop and expand our sales and marketing capabilities will require us to invest significant financial and other resources, including in industries and sales channels in which we have limited experience to date. We may not achieve anticipated revenue growth from expanding our sales and marketing capabilities, and our business, financial condition, results of operations, and growth prospects may be materially adversely affected, if we are unable to hire, develop, integrate, and retain talented and effective sales personnel and global systems integrators, consultancies, and digital agencies; if our new and existing sales personnel are unable to achieve desired productivity levels in a reasonable period of time; or if our sales and marketing programs are not effective.

We may be unable to build and maintain successful relationships with our channel partners or such channel partners may fail to perform, which could materially adversely affect our business, financial condition, results of operations, and growth prospects.

We employ a go-to-market business model whereby a portion of our revenue is generated by sales through our channel partners, such as independent software vendors and resellers, that further expand the reach of our direct sales force into additional geographies, sectors, and industries. In particular, we have entered, and intend to continue to enter, into strategic sales distributor and reseller

relationships in certain international markets where we do not have a local presence. We provide certain of our channel partners with specific training and programs to assist them in selling access to our Digital Analytics Platform, but there can be no assurance that these steps will be effective, and restrictions on travel and other limitations as a result of the COVID-19 pandemic may undermine our efforts to provide training and build relationships. In addition, if our channel partners are unsuccessful in marketing and selling access to our Digital Analytics Platform, it would limit our expansion into certain geographies, sectors, and industries. If we are unable to develop and maintain effective sales incentive programs for our channel partners, we may not be able to incentivize these partners to sell access to our Digital Analytics Platform to customers.

Some of these partners may also market, sell, and support offerings that are competitive with ours, may devote more resources to the marketing, sales, and support of such competitive offerings, may have incentives to promote our competitors' offerings to the detriment of our own, or may cease selling access to our Digital Analytics Platform altogether. Our channel partners could subject us to lawsuits, potential liability, and reputational harm if, for example, any of our channel partners misrepresents the functionality of our Digital Analytics Platform to customers or violates laws or our or their corporate policies. Our ability to achieve revenue growth in the future will depend, in part, on our success in maintaining successful relationships with our channel partners, identifying additional channel partners, including in new markets, and training our channel partners to independently sell access to our Digital Analytics Platform. If our channel partners are unsuccessful in selling access to our Digital Analytics Platform, or if we are unable to enter into arrangements with or retain a sufficient number of high-quality channel partners in each of the regions in which we sell access to our Digital Analytics Platform and keep them motivated to sell access to our Digital Analytics Platform, our business, financial condition, results of operations, and growth prospects could be adversely affected.

If our marketing strategies are not effective in attracting new customers and retaining existing customers, our business and ability to grow our revenues would be harmed.

We rely on our marketing strategies—which consist of a combination of online and offline marketing programs such as online advertising, blogs, public relations, social media, user conferences, educational white papers and webinars, product demos, workshops, roundtables, and customer case studies, offering customers a free-tier, self-service option, and other inbound lead generation and outbound sales strategies—to drive our sales and revenue. These strategies may not continue to generate the level of sales necessary to increase our revenue. If our outbound sales efforts are unsuccessful at attracting new customers and retaining existing customers, we may be unable to grow our market share and revenue. If our customer base does not continue to grow through word-of-mouth marketing and viral adoption or outbound sales efforts, we may be required to incur significantly higher sales and marketing expenses in order to acquire new subscribers, which could materially adversely affect our business and results of operations. In addition, high levels of customer satisfaction and market adoption are central to our marketing model. Any decrease in our customers' satisfaction with our products, including as a result of actions outside of our control, could harm word-of-mouth referrals and our brand.

Additionally, many customers never convert from our free-tier, self-service option to a paid subscription contract. Further, we often depend on individuals within an organization who initiate our free-tier, self-service option being able to convince decision-makers within their organization to convert to a subscription contract. Many of these organizations have complex and multi-layered purchasing requirements. To the extent that these free-tier customers do not become paying subscribers, we will not realize the intended benefits of this marketing strategy.

Sales efforts to larger organizations involve risks that may not be present or that are present to a lesser extent with respect to sales to smaller organizations.

We have experienced rapid growth in our customer base since our inception. Although our growth strategy includes acquiring new customers across industries, company size, and stages of digital maturity, we believe there is a significant opportunity to continue to penetrate the largest global organizations. Sales to larger organizations involve risks that may not be present, or that are present to a lesser extent, with sales to smaller organizations, such as longer sales cycles, more complex customer requirements, substantial upfront sales costs, and less predictability in completing some of our sales. For example, enterprise customers, which we define as customers with more than 1,500 employees, may require considerable time to evaluate and test our Digital Analytics Platform prior to making a purchase decision and placing an order. A number of factors influence the length and variability of our sales cycle, including the need to educate potential customers about the uses and benefits of our Digital Analytics Platform, the discretionary nature of purchasing and budget cycles, and the competitive nature of evaluation and purchasing approval processes. As a result, the length of our sales cycle, from identification of the opportunity to deal closure, may vary significantly from customer to customer, with sales to enterprises typically taking longer to complete. During the year ended December 31, 2022, the average length of our sales cycle to enterprises was four to six months, as compared to one to two months to non-enterprise customers. In addition, larger organizations may demand more features and integration services. Sales to larger organizations also may increase the variability of our financial results. If we are unable to close one or more expected significant transactions with these customers in a particular period, or if an expected transaction is delayed until a subsequent period, our results of operations for that period, and for any future periods in which

revenue from such transaction would otherwise have been recognized, may be adversely affected. If we fail to effectively manage these risks associated with sales cycles and sales to larger organizations, our business, financial condition, and results of operations may be materially adversely affected.

If we are unable to maintain and enhance our brand, our business, financial condition, and results of operations may be materially adversely affected.

We believe that maintaining and enhancing our reputation as a differentiated and category-defining company in digital analytics is critical to our relationships with our existing customers and to our ability to attract new customers. The successful promotion of our brand attributes will depend on a number of factors, including our marketing efforts, our ability to ensure that our platform remains reliable and secure, our ability to continue to develop high-quality software, and our ability to successfully differentiate our Digital Analytics Platform from competitive products and services. In addition, independent industry analysts often provide reviews of our Digital Analytics Platform, as well as products and services offered by our competitors, and perception of our Digital Analytics Platform in the marketplace may be significantly influenced by these reviews. If these reviews are negative, or less positive as compared to those of our competitors' products and services, our brand may be adversely affected. It may also be difficult to maintain and enhance our brand in connection with sales through channel or strategic partners.

The promotion of our brand requires us to make substantial expenditures, and we anticipate that the expenditures will increase as our market becomes more competitive, as we expand into new markets, and as more sales are generated through our channel partners. To the extent that these activities yield increased revenue, this revenue may not offset the increased expenses we incur. If we do not successfully maintain and enhance our brand, our business may not grow, we may have reduced pricing power relative to competitors, and we could lose customers or fail to attract potential customers, all of which would materially adversely affect our business, financial condition, and results of operations.

Our operations are international in scope, and we plan further geographic expansion, creating a variety of operational challenges.

For the year ended December 31, 2022 and 2021, 38% and 36% of our revenue was generated outside the United States, respectively. A component of our growth strategy involves the further expansion of our operations and customer base internationally, which will require significant dedication of management attention and financial resources. We are continuing to adapt to and develop strategies to address international markets, but there is no guarantee that such efforts will have the desired effect. Our sales organization outside the United States is substantially smaller than our sales organization in the United States, and to date, only a very small portion of our sales has been driven by resellers or other channel partners. To the extent we are unable to effectively engage with non-U.S. customers due to our limited sales force capacity and limited channel partners, we may be unable to effectively grow in international markets.

Our current and future international business and operations involve a variety of risks, including:

- slower than anticipated public cloud adoption by international businesses;
- changes, which may be unexpected, in a specific country's or region's political, economic, or legal and regulatory environment, including Brexit, armed conflicts, pandemics, terrorist activities, tariffs, trade wars, or long-term environmental risks;
- the need to adapt and localize our Digital Analytics Platform for specific countries;
- longer payment cycles and greater difficulty enforcing contracts, collecting accounts receivable, or satisfying revenue recognition criteria, especially in emerging markets;
- new, evolving, and more stringent regulations relating to privacy and data security and the unauthorized use of, or access to, commercial and personal information, particularly in Europe;
- differing and potentially more onerous labor regulations, especially in Europe, where labor laws are generally more advantageous to employees as compared to the United States, including deemed hourly wage and overtime regulations in these locations;
- challenges inherent in efficiently managing, and the increased costs associated with, an increased number of employees over large geographic distances, including the need to implement appropriate systems, policies, benefits, and compliance programs that are specific to each jurisdiction;
- difficulties in managing a business in new markets with diverse cultures, languages, customs, legal systems, alternative dispute systems, and regulatory systems;
- increased travel, real estate, infrastructure, and legal compliance costs associated with international operations;

- currency exchange rate fluctuations and the resulting effect on our revenue and expenses, and the cost and risk of entering into hedging transactions if we choose to do so in the future;
- limitations on our ability to reinvest earnings from operations in one country to fund the capital needs of our operations in other countries;
- laws and business practices favoring local competitors or general market preferences for local vendors;
- limited or insufficient intellectual property protection or difficulties obtaining, maintaining, protecting, or enforcing our intellectual property rights, including our trademarks and patents;
- COVID-19 or other pandemics or epidemics, or other global political, social or macroeconomic events, including the war in Ukraine, that could decrease economic activity in certain markets, decrease use of our products and services, or decrease our ability to import, export, or sell our products and services to existing or new customers in international markets;
- exposure to liabilities under export control, economic and trade sanctions, anti-corruption, and anti-money laundering laws, including the Export Administration Regulations, regulations administered by the Office of Foreign Assets Control, the U.S. Foreign Corrupt Practices Act (“FCPA”), U.S. bribery laws, the UK Bribery Act, and similar laws and regulations in other jurisdictions;
- increased financial accounting and reporting burdens and complexities;
- requirements or preferences for domestic products;
- differing technical standards, existing or future regulatory and certification requirements, and required features and functionality;
- burdens of complying with laws and regulations related to privacy and data security, including the E.U. General Data Protection Regulation (“GDPR”) and similar laws and regulations in other jurisdictions; and
- burdens of complying with laws and regulations related to taxation, and regulations, adverse tax burdens, and foreign exchange controls that could make it difficult to repatriate earnings and cash.

If we invest substantial time and resources to further expand our international operations and are unable to do so successfully and in a timely manner, our business, financial condition, and results of operations could be materially adversely affected.

The war between Russia and Ukraine could materially adversely affect our business, results of operations, and financial condition.

On February 24, 2022, Russian military forces invaded Ukraine, and although the length, impact, and outcome of the ongoing war in Ukraine is highly unpredictable, this war has led, and could continue to lead, to significant market and other disruptions, including instability in financial markets, supply chain interruptions, political and social instability, and changes in consumer or purchaser preferences, as well as an increase in cyberattacks, intellectual property theft, and espionage.

We are actively monitoring the situation in Ukraine and assessing its impact on our business, including our business partners and customers. For example, we and various companies have voluntarily stopped seeking to increase business in Russia. Such circumstances, combined with sanctions have resulted in disruptions to our customers' businesses in the impacted regions, including, at times, their ability to pay for our services. As such, we expect a reduction in revenue from customers in the impacted regions as long as these circumstances continue.

We have no way to predict the progress or outcome of the war in Ukraine or its impacts in Ukraine, Russia, or Belarus as the war, and any resulting government reactions, are rapidly developing and beyond our control. The extent and duration of the war, sanctions, and resulting market disruptions could be significant and could potentially have a substantial impact on the global economy and our business for an unknown period of time. Any of the above-mentioned factors could materially adversely affect our business, financial condition, and results of operations. Any such disruptions may also magnify the impact of other risks described in this “Risk Factors” section and elsewhere in this Annual Report on Form 10-K.

We derive, and expect to continue for some time to derive, substantially all of our revenue from our Amplitude Analytics product.

Although we recently released our Amplitude CDP and Amplitude Experiment products, we currently derive, and expect to continue for some time to derive, substantially all of our revenue from our Amplitude Analytics product. As such, the continued growth in demand for, and market acceptance, of Amplitude Analytics is critical to our success. Demand for Amplitude Analytics and our other products and platform functionality is affected by a number of factors, many of which are beyond our control, such as

continued market acceptance of our products by customers for existing and new use cases, the timing of development and release of new products, features, and functionality that are lower-cost alternatives introduced by us or our competitors, technological changes and developments within the markets we serve, and growth or contraction in our addressable markets. If we are unable to continue to meet customer demands or to achieve more widespread market acceptance of our products, particularly our Amplitude Analytics product, our business, financial condition, and results of operations could be materially adversely affected.

We invest significantly in research and development, and to the extent our research and development investments do not translate into new products or material enhancements to our current products, or if we do not use those investments efficiently, our business, financial condition, and results of operations would be materially adversely affected.

For the years ended December 31, 2022 and 2021, our research and development expenses were 34% and 29% of our revenue, respectively. If we do not spend our research and development budget efficiently or effectively on compelling innovation and technologies, our business may be harmed. Moreover, research and development projects can be technically challenging and expensive. The nature of these research and development cycles may cause us to experience delays between the time we incur expenses associated with research and development and the time we are able to offer compelling products and generate revenue, if any, from such investment. Additionally, anticipated customer demand for a product or service we are developing could decrease after the development cycle has commenced, and we would nonetheless be unable to avoid substantial costs associated with the development of any such product or service. If we expend a significant amount of resources on research and development and our efforts do not lead to the successful introduction or improvement of products that are competitive in our current or future markets, our business, financial condition, and results of operations would be materially adversely affected.

We agree to indemnify customers and other third parties, which exposes us to substantial potential liability.

Our contracts with customers and other third parties may include indemnification or other provisions under which we agree to indemnify or otherwise be liable to them for losses arising from alleged infringement, misappropriation, or other violation of intellectual property rights, data protection violations, breaches of representations and warranties, damage to property or persons, or other liabilities arising from our platform or such contracts. Although we attempt to limit our indemnity obligations, an event triggering our indemnity obligations could give rise to multiple claims involving multiple customers or other third parties. These claims may require us to initiate or defend protracted and costly litigation on behalf of our customers and other third parties, regardless of the merits of these claims. We may not have adequate or any insurance coverage and may be liable for up to the full amount of the indemnified claims, which could result in substantial liability or material disruption to our business or could negatively impact our relationships with customers or other third parties, reduce demand for our products, and materially adversely affect our business, financial condition, and results of operations.

We may require additional capital to support the growth of our business, and this capital might not be available on acceptable terms, if at all.

We do not know when or if our operations will generate sufficient cash to fully fund our ongoing operations or the growth of our business. We intend to continue to make investments to support our business, which may require us to engage in debt or equity financings to secure additional funds. Additional financing may not be available on terms favorable to us, if at all. If adequate funds are not available on acceptable terms, we may be unable to invest in future growth opportunities, which could materially adversely affect our business, financial condition, and results of operations. If we incur debt, the debt holders would have rights senior to holders of common stock to make claims on our assets, and the terms of any debt could restrict our operations, including our ability to pay dividends on our common stock. Furthermore, if we issue additional equity securities, stockholders will experience dilution, and the new equity securities could have rights senior to those of our common stock. Because our decision to issue securities in the future will depend on numerous considerations, including factors beyond our control, we cannot predict or estimate the amount, timing, or nature of any future issuances of debt or equity securities. As a result, our stockholders bear the risk of future issuances of debt or equity securities reducing the value of our common stock and diluting their interests.

Risks Related to Our Intellectual Property

Our intellectual property rights may not protect our business or provide us with a competitive advantage, which could have a material adverse effect on our business, financial condition, and results of operations.

To be successful, we must protect our technology and brand in the United States and other jurisdictions through trademarks, trade secrets, patents, copyrights, service marks, invention assignments, contractual restrictions, and other intellectual property rights and confidentiality procedures. Despite our efforts to implement these protections, these measures may not protect our business or provide us with a competitive advantage for a variety of reasons, including:

- our failure to obtain patents and other intellectual property rights for important innovations or maintain appropriate confidentiality and other protective measures to establish and maintain our trade secrets;
- uncertainty in, and evolution of, legal standards relating to the validity, enforceability, and scope of protection of intellectual property rights;
- potential invalidation of our intellectual property rights through administrative processes or litigation;
- any inability by us to detect infringement or other misappropriation of our intellectual property rights by third parties; and
- other practical, resource, or business limitations on our ability to enforce our rights.

Further, the laws of certain foreign countries, particularly certain developing countries, do not provide the same level of protection of corporate proprietary information and assets, such as intellectual property, trademarks, trade secrets, know-how, and records, as the laws of the United States. As a result, we may encounter significant problems in protecting and defending our intellectual property or proprietary rights in foreign jurisdictions. Additionally, we may also be exposed to material risks of theft or unauthorized reverse engineering of our proprietary information and other intellectual property, including technical data, data sets, or other sensitive information. Our efforts to enforce our intellectual property rights in such foreign countries may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop, which could have a material adverse effect on our business, financial condition, and results of operations.

We enter into confidentiality and invention assignment agreements with our employees and consultants and enter into confidentiality agreements with the parties with whom we have strategic relationships and business alliances. No assurance can be given that these agreements will be effective in controlling access to and distribution of our products and proprietary information. Further, these agreements may not prevent our competitors from independently developing technologies that are substantially equivalent or superior to our platform and offerings.

Further, litigation may be necessary to enforce our intellectual property or proprietary rights, protect our trade secrets, or determine the validity and scope of proprietary rights claimed by others. Any litigation, whether or not resolved in our favor, could result in significant expense to us, divert the efforts of our technical and management personnel, and result in counterclaims with respect to infringement of intellectual property rights by us. If we are unable to prevent third parties from infringing upon or misappropriating our intellectual property or are required to incur substantial expenses defending our intellectual property rights, our business, financial condition, and results of operations may be materially adversely affected.

We may become subject to intellectual property disputes, which are expensive to support and, if resolved adversely, may subject us to significant liability and increased costs of doing business, which could have a material adverse effect on us.

We compete in markets where there are a large number of patents, copyrights, trademarks, trade secrets, and other intellectual and proprietary rights, as well as disputes regarding infringement of these rights. Many of the holders of patents, copyrights, trademarks, trade secrets, and other intellectual and proprietary rights have extensive intellectual property portfolios and greater resources than we do to enforce their rights. As compared to our large competitors, our patent portfolio is relatively undeveloped and may not provide a material deterrent to such assertions or provide us with a strong basis to counterclaim or negotiate settlements. Further, to the extent assertions are made against us by entities that hold patents but are not operating companies, our patent portfolio may not provide deterrence because such entities are not concerned with counterclaims.

Any intellectual property litigation to which we become a party may require us to do one or more of the following:

- cease selling, licensing, or using products or features that incorporate the intellectual property rights that we allegedly infringe, misappropriate, or violate;
- make substantial payments for legal fees, settlement payments, subscription fee refunds, or other costs or damages, including indemnification of third parties;
- obtain a license or enter into a royalty agreement, either of which may not be available on reasonable terms or at all, in order to obtain the right to sell or use the relevant intellectual property; or
- redesign the allegedly infringing products to avoid infringement, misappropriation, or violation, which could be costly, time-consuming, or impossible.

Intellectual property litigation is typically complex, time consuming, and expensive to resolve and would divert the resources, time, and attention of our management and technical personnel, which might seriously harm our business, financial condition, and results of operations. We may be required to settle such litigation on terms that are unfavorable to us. For example, a settlement may require us to obtain a license to continue practices found to be in violation of a third party's rights, which may not be available on

reasonable terms and may significantly increase our operating expenses. A license to continue such practices may not be available to us at all. As a result, we may also be required to develop alternative, non-infringing technology or practices or discontinue the practices. The development of alternative non-infringing technology or practices would require significant effort and expense. Similarly, if any litigation to which we may be a party fails to settle and we go to trial, we may be subject to an unfavorable judgment which may not be reversible upon appeal.

Further, such litigation may also result in adverse publicity, which could harm our reputation and ability to attract or retain customers. As we grow, we may experience a heightened risk of allegations of intellectual property infringement. An adverse result in any litigation claims against us could have a material adverse effect on our business, financial condition, and results of operations.

Our use of “open-source” software could negatively affect our ability to sell our platform and subject us to possible litigation.

We use software in our Digital Analytics Platform that is licensed from third parties pursuant to open-source licenses. Certain open-source software licenses require a user who distributes or otherwise makes available the open-source software in connection with the user’s proprietary software to disclose publicly part or all of the source code to the user’s proprietary software. The use and distribution of open-source software may entail greater risks than the use of third-party commercial software, as open-source licensors generally do not provide warranties or other contractual protections regarding infringement claims or the quality of the code. Additionally, certain open-source software licenses are difficult to interpret and require the user of such software to make the source code of any derivative works of the open-source code and certain related software available to third parties with few restrictions on the use or further distribution of such software by such third parties. As a result, we may face claims from others seeking to enforce the terms of an open-source license, including by demanding the release of derivative works of the open-source software and our proprietary source code that was developed or used in connection with such software. These claims could also result in litigation and require us to replace certain open-source software with proprietary software licensed under costly commercial licenses or require us to devote additional research and development resources to change our platform, any of which would have a material adverse effect on our business and results of operations. Although we have implemented policies to regulate the use and incorporation of open-source software into our platform, we cannot be certain that we have not incorporated open-source software in our platform in a manner that is inconsistent with such policies. Any use of open-source software inconsistent with our policies or licensing terms could materially adversely affect our business, financial condition, and results of operations.

Risks Related to Regulatory Compliance and Legal Matters

We are subject to government regulation, including import, export, economic and trade sanctions, and anti-corruption laws and regulations, that may expose us to liability and increase our costs.

Our Digital Analytics Platform is subject to U.S. export controls, including the U.S. Department of Commerce’s Export Administration Regulations and economic and trade sanctions regulations administered by the U.S. Department of the Treasury’s Office of Foreign Assets Control. These regulations may limit the export of our products and provision of our services outside of the United States, or may require export authorizations, including by license, a license exception, or other appropriate government authorizations, including annual or semi-annual reporting and the filing of an encryption registration. Export control and economic sanctions laws may also include prohibitions on the sale or supply of certain of our products to embargoed or sanctioned countries, regions, governments, persons, and entities. In addition, various countries regulate the importation of certain products, through import permitting and licensing requirements, and have enacted laws that could limit our ability to distribute our products. The exportation, reexportation, and importation of our products and the provision of services, including by our partners, must comply with these laws or else we may be adversely affected, through reputational harm, government investigations, penalties, and a denial or curtailment of our ability to export our products or provide services. Complying with export control and sanctions laws may be time consuming and may result in the delay or loss of sales opportunities. Although we have controls designed to prevent our services from being used in violation of such laws, we are aware of a limited number of past occasions in which persons from U.S. sanctioned countries or regions appear to have accessed our platform. We have taken measures designed to prevent such situations from reoccurring, but there can be no guarantee that such measures will be successful in every case. If we are found to be in violation of U.S. sanctions or export control laws, it could result in substantial fines and penalties for us and for individuals working for us. Changes in export or import laws, or corresponding sanctions, may delay the introduction and sale of our services in international markets, or, in some cases, prevent the export or import of our services to certain countries, regions, governments, persons, or entities altogether, which could materially adversely affect our business, financial condition, and results of operations.

We are also subject to various domestic and international anti-corruption laws, such as the FCPA and the UK Bribery Act, as well as other similar anti-bribery and anti-kickback laws and regulations. These laws and regulations generally prohibit companies and their employees and intermediaries from directly or indirectly authorizing, promising, offering, or providing payments or benefits to government officials and other recipients for improper purposes, such as to obtain or retain business improperly or secure an improper business advantage. We rely on certain third parties to support our sales and regulatory compliance efforts and can be held liable in certain cases for their corrupt or other illegal activities, even if we do not explicitly authorize such activities. The FCPA also requires

that we keep accurate books and records and maintain a system of adequate internal controls. Although we take precautions to prevent violations of these laws, we cannot provide assurance that our internal controls and compliance systems will always prevent misconduct by our employees, agents, third parties, or business partners. Our exposure for violating these laws will increase as our international presence expands and as we increase sales and operations in foreign jurisdictions.

Violations of applicable anti-corruption laws could subject us to significant sanctions, including civil or criminal fines and penalties, disgorgement of profits, injunctions, and debarment from government contracts, as well as related stockholder lawsuits and other remedial measures, all of which could adversely affect our reputation, business, financial condition, and results of operations. Violations or allegations of violations could also result in whistleblower complaints, adverse media coverage, and investigations, any of which could have a material adverse effect on our reputation, business, and results of operations.

Our business may be affected by sanctions, export controls, and similar measures targeting Russia and other countries and territories, as well as other responses to Russia's invasion of Ukraine.

As a result of Russia's invasion of Ukraine, governmental authorities in the United States, the European Union, and the United Kingdom, among others, launched an expansion of coordinated sanctions and export control measures, including, for example:

- blocking sanctions on some of the largest state-owned and private Russian financial institutions (and their subsequent removal from the Society for Worldwide Interbank Financial Telecommunication ("SWIFT") payment system);
- blocking sanctions against Russian and Belarusian individuals, including the Russian President, other politicians, and those with government connections or involvement in Russian military activities;
- blocking sanctions against certain Russian businessmen and their businesses, some of which have significant financial and trade ties to the European Union;
- blocking of Russia's foreign currency reserves and prohibition on secondary trading in Russian sovereign debt and certain transactions with the Russian Central Bank, National Wealth Fund, and the Ministry of Finance of the Russian Federation;
- expansion of sectoral sanctions in various sectors of the Russian and Belarusian economies and the defense sector;
- United Kingdom sanctions introducing restrictions on providing loans to, and dealing in securities issued by, persons connected with Russia;
- restrictions on access to the financial and capital markets in the European Union, as well as prohibitions on aircraft leasing operations;
- sanctions prohibiting most commercial activities of U.S., U.K., and E.U. persons in the so-called People's Republic of Donetsk and the so-called People's Republic of Luhansk (and, with respect to the E.U., the areas of Kherson and Zaporizhzhia not controlled by the Ukrainian government), with all of these new restrictions largely tracking prior prohibitions relating to Crimea and Sevastopol;
- enhanced import and export controls and trade sanctions targeting Russia's imports of technological goods, including E.U. and U.K. prohibitions on exporting a wide range of "industrial" goods to Russia (and on importing a large number of "revenue-generating" goods from Russia). The restrictions also include bans on the export of large numbers of "luxury" items to Russia (and in some cases also to Belarus), tighter controls on exports and reexports of dual-use items, stricter licensing policy with respect to issuing export licenses, and/or increased use of "end-use" controls to block or impose licensing requirements on exports, as well as higher import tariffs;
- the closure of airspace to Russian aircraft; and
- ban on imports of Russian oil, liquefied natural gas, and coal to the United States and on "new investment" in Russia's energy sector (often with similar bans being enacted in the United Kingdom and the E.U.);
- ban on imports of Russian fish, seafood, and preparations thereof, alcoholic beverages, non-industrial diamonds, and gold to the United States;
- a ban on "new investment" in the Russian Federation by a U.S. person, which may be interpreted broadly (with a similar prohibition also enacted by the United Kingdom);
- bans on the provision of certain professional services, including accounting, trust and corporate formation, auditing, and management consulting services, among others; and
- bans on the provision of services related to the worldwide maritime transportation of seaborne Russian oil, if purchased above a specific price cap.

As the conflict in Ukraine continues, there can be no certainty regarding whether the governmental authorities in the United States, the European Union, the United Kingdom, or other countries will impose additional sanctions, export controls, or other measures targeting Russia, Belarus, or other territories. Furthermore, in retaliation against new international sanctions and as part of measures to stabilize and support the volatile Russian financial and currency markets, the Russian authorities also imposed significant currency control measures aimed at restricting the outflow of foreign currency and capital from Russia, imposed various restrictions on transacting with non-Russian parties, banned exports of various products, and imposed other economic and financial restrictions.

Our business must be conducted in compliance with applicable economic and trade sanctions laws and regulations, including those administered and enforced by the U.S. Department of Treasury's Office of Foreign Assets Control, the U.S. Department of State, the U.S. Department of Commerce, the United Nations Security Council, and other relevant governmental authorities. We must be ready to comply with the existing and any other potential additional measures imposed in connection with the conflict in Ukraine. The imposition of such measures could adversely impact our business, including preventing us from performing existing contracts, recognizing revenue, pursuing new business opportunities, or receiving payment for subscriptions from our existing customers.

We believe we do not currently have contracts directly with the entities or businesses on the sanctions list and we currently do not have facilities or employees in Russia, Belarus, the Crimea Region of Ukraine, the so-called Donetsk People's Republic, or the so-called Luhansk People's Republic. We are reviewing and monitoring our contractual relationships with suppliers and customers to establish whether any are implicated by applicable sanctions. However, given the range of possible outcomes, the full costs, burdens, and limitations on our and our customer's and business partners' businesses are currently unknown and may become significant. As a result, based on the extent and breadth of sanctions, export controls, and other measures that may be imposed and related effects in connection with the conflict in Ukraine, it is possible that our business, financial condition, and results of operations could be materially adversely affected.

Complying with evolving privacy and other data-related laws, as well as contractual and other requirements, may be expensive and force us to make adverse changes to our business, and the failure or perceived failure to comply with such laws, contracts, and other requirements could result in adverse reputational and brand damage and significant fines and liability or otherwise materially adversely affect our business and growth prospects.

We are subject to numerous federal, state, local, and foreign privacy and data protection laws, regulations, policies, and contractual obligations that apply to the collection, transmission, storage, processing, sharing, disclosure, security, and use of personal information or personal data which, among other things, impose certain requirements relating to the privacy and security of personal information and other data. Laws and regulations governing privacy and data protection, the use of the internet as a commercial medium, the use of data in AI and ML, and data sovereignty requirements are rapidly evolving, extensive, complex, and include inconsistencies and uncertainties and may conflict with other rules or our practices. Further, new laws, rules, and regulations could be enacted with which we are not familiar or with which our current practices do not comply.

We may incur significant expenses to comply with the laws, regulations, and other obligations that apply to us. For example, the GDPR imposes stringent data protection requirements for processing the personal data of individuals within the European Economic Area (the "EEA"), including certain disclosure requirements, limitations on retention of personal data, mandatory data breach notification requirements, and additional obligations. Non-compliance with the GDPR can trigger fines of up to the greater of €20 million or 4% of our global annual turnover. Among other requirements, the GDPR regulates transfers of personal data subject to the GDPR to third countries that have not been found to provide adequate protection to such personal data, including the United States, and the efficacy and longevity of current transfer mechanisms between the E.U. and the United States remains uncertain. For example, on July 16, 2020, the Court of Justice of the European Union (the "CJEU") invalidated the EU-US Privacy Shield Framework, or Privacy Shield, under which personal information could be transferred from the EEA (and the United Kingdom) to relevant self-certified U.S. entities. In March 2022, the US and E.U. announced a new regulatory regime intended to replace the invalidated regulations; however, this new EU-US Data Privacy Framework has not been implemented beyond an executive order signed by President Biden on October 7, 2022 on Enhancing Safeguards for United States Signals Intelligence Activities. The CJEU further noted that reliance on the standard contractual clauses ("SCCs"), a standard form of contract approved by the European Commission as an adequate personal data transfer mechanism and potential alternative to the Privacy Shield) alone may not necessarily be sufficient in all circumstances and that transfers must be assessed on a case-by-case basis. European court and regulatory decisions subsequent to the CJEU decision of July 16, 2020 have taken a restrictive approach to international data transfers. As the enforcement landscape further develops, and supervisory authorities issue further guidance on—and revised standard contractual clauses for—international data transfers, we could suffer additional costs, complaints, and/or regulatory investigations or fines, we may have to stop using certain tools and vendors and make other operational changes, and/or manner in which we provide our services could otherwise be affected, which could adversely affect our business, financial condition, and results of operations.

Since the beginning of 2021, companies have had to comply with both the GDPR and the UK GDPR, which, together with the amended UK Data Protection Act 2018, retains the GDPR in UK national law. The UK GDPR mirrors the fines under the GDPR, imposing fines up to the greater of €20 million (£17.5 million) or 4% of global turnover.

In addition to the European Union and United Kingdom, a growing number of other global jurisdictions are considering, or have passed, legislation implementing data protection requirements or requiring local storage and processing of data or similar requirements that could increase the cost and complexity of delivering our platform, particularly as we expand our operations internationally. Some of these laws, such as the General Data Protection Law in Brazil, or the Act on the Protection of Personal Information in Japan, impose similar obligations as those under the GDPR. Others, such as those in Russia, India, and China, could potentially impose more stringent obligations, including data localization requirements. If we are unable to develop and offer features that meet legal requirements or help our customers meet their obligations under the laws or regulations relating to privacy, data protection, or information security, or if we violate or are perceived to violate any laws, regulations, or other obligations relating to privacy, data protection, or information security, we may experience reduced demand for our Digital Analytics Platform, harm to our reputation, and could become subject to investigations, claims, and other remedies, which would expose us to significant fines, penalties, and other damages, all of which would harm our business. Further, given the breadth and depth of changes in global data protection obligations, compliance has caused us to expend significant resources, and such expenditures are likely to continue into the future as we continue our compliance efforts and respond to new interpretations and enforcement actions.

The data protection landscape is also rapidly growing and evolving in the United States. As our operations and business grow, we may become subject to or affected by new or additional data protection laws and regulations and face increased scrutiny or attention from regulatory authorities. For example, the California Consumer Privacy Act of 2018 (the “CCPA”) became effective on January 1, 2020. The CCPA requires companies that process information on California residents to make certain disclosures to consumers about their data collection, use, and sharing practices, allows consumers to opt out of certain data sharing with third parties and exercise certain individual rights regarding their personal information, provides a new private right of action for data breaches, and provides for penalties for noncompliance. Additionally, the California Privacy Rights Act (the “CPRA”) was recently passed in California. The CPRA will impose additional data protection obligations on covered businesses, including additional consumer rights processes, limitations on data uses, new audit requirements for higher risk data, and opt outs for certain uses of sensitive data. It will also create a new California data protection agency authorized to issue substantive regulations and could result in increased privacy and information security enforcement. The majority of the CPRA provisions went into effect on January 1, 2023, and additional compliance investment and potential business process changes may be required. Similar laws have been passed in Virginia, Colorado, Connecticut, and Utah and have been proposed in other states and at the federal level, reflecting a trend toward more stringent privacy legislation in the United States. The enactment of such laws may have potentially conflicting requirements that would make compliance challenging.

Furthermore, the FTC and many state Attorneys General continue to enforce federal and state consumer protection laws against companies for online collection, use, dissemination, and security practices that appear to be unfair or deceptive. For example, according to the FTC, failing to take appropriate steps to keep consumers’ personal information secure can constitute unfair acts or practices in or affecting commerce in violation of Section 5(a) of the Federal Trade Commission Act. The FTC expects a company’s data security measures to be reasonable and appropriate in light of the sensitivity and volume of consumer information it holds, the size and complexity of its business, and the cost of available tools to improve security and reduce vulnerabilities. There are a number of legislative proposals in the United States, at both the federal and state level, and in the European Union and elsewhere, that could impose new obligations in areas such as e-commerce and other related legislation or liability for copyright infringement by third parties. We cannot yet determine the impact that these future laws, regulations, and standards may have on our business.

Although we work to comply with applicable laws, regulations, and standards, our contractual obligations, and other legal obligations, these requirements are evolving and may be modified, interpreted, and applied in an inconsistent manner from one jurisdiction to another, and may conflict with one another or other legal obligations with which we must comply. Any failure or perceived failure by us or our employees, representatives, contractors, consultants, collaborators, or other third parties to comply with such requirements or adequately address privacy and security concerns, even if unfounded, could result in additional costs and liability to us and damage to our reputation, and could adversely affect our business and results of operations. In addition, if our practices are not consistent, or viewed as not consistent, with legal and regulatory requirements, including changes in laws, regulations, and standards or new interpretations or applications of existing laws, regulations, and standards, we may also become subject to audits, inquiries, whistleblower complaints, adverse media coverage, investigations, or criminal or civil sanctions, all of which may harm our business, financial condition, and results of operations.

Any future litigation against us could be costly and time-consuming to defend.

We may become subject to legal proceedings and claims that arise in the ordinary course of business, such as claims brought by our customers in connection with commercial disputes or employment claims made by our current or former employees. Litigation

might result in substantial costs and may divert management’s attention and resources, which might materially adversely affect our business, financial condition, and results of operations. Insurance might not cover such claims, might not provide sufficient payments to cover all the costs to resolve one or more such claims, and might not continue to be available on terms acceptable to us (including premium increases or the imposition of large deductible or co-insurance requirements). A claim brought against us that is uninsured or underinsured could result in unanticipated costs, potentially having a material adverse effect on our business, financial condition, and results of operations. In addition, we cannot be sure that our existing insurance coverage and coverage for errors and omissions will continue to be available on acceptable terms or that our insurers will not deny coverage as to any future claim.

Risks Related to Tax and Accounting Matters

We face exposure to foreign currency exchange rate fluctuations.

We conduct transactions, particularly intercompany transactions, in currencies other than the U.S. dollar. While we have primarily transacted with customers and vendors in U.S. dollars, we have transacted in foreign currencies for subscriptions to our Digital Analytics Platform, and we expect to significantly expand the number of transactions with customers for our Digital Analytics Platform that are denominated in foreign currencies. A portion of our operating expenses are incurred outside the United States, denominated in foreign currencies, and subject to fluctuations due to changes in foreign currency exchange rates, particularly changes in the Euro, British Pound, Canadian Dollar, Singapore Dollar, and Japanese Yen. In addition, our international subsidiaries maintain net assets denominated in currencies other than the functional operating currencies of these entities. Accordingly, changes in the value of foreign currencies relative to the U.S. dollar can affect our results of operations due to transactional and translational remeasurements. As a result of these foreign currency exchange rate fluctuations, it could be more difficult to detect underlying trends in our business and results of operations. To the extent that fluctuations in currency exchange rates cause our results of operations to differ from our expectations or the expectations of our investors, the trading price of our Class A common stock could be adversely affected. We do not currently maintain a program to hedge transactional exposures in foreign currencies. However, in the future, we may use derivative instruments, such as foreign currency forward and option contracts, to hedge certain exposures to fluctuations in foreign currency exchange rates. The use of these hedging instruments may not offset any, or more than a portion of, the adverse financial effects of unfavorable movements in foreign exchange rates over the limited time the hedges are in place, and may introduce additional risks if they are not structured effectively.

In addition, our international subsidiaries maintain net assets denominated in currencies other than the functional operating currencies of these entities. Accordingly, changes in the value of foreign currencies relative to the U.S. dollar can affect our revenue and results of operations due to transactional and translational remeasurements. As a result of these foreign currency exchange rate fluctuations, it could be more difficult to detect underlying trends in our business and results of operations. To the extent that fluctuations in currency exchange rates cause our results of operations to differ from our expectations or the expectations of our investors, the trading price of our Class A common stock could be adversely affected.

Our global operations and structure subject us to potentially adverse tax consequences.

We generally conduct our global operations through subsidiaries and report our taxable income in various jurisdictions worldwide based upon our business operations in those jurisdictions. A change in our global operations could result in higher effective tax rates, reduced cash flows, and lower overall profitability. In particular, our intercompany relationships are subject to complex transfer pricing regulations administered by taxing authorities in various jurisdictions. The relevant revenue and taxing authorities may disagree with positions we have taken generally, or our determinations as to the value of assets sold or acquired or income and expenses attributable to specific jurisdictions. If such a disagreement were to occur, and our position was not sustained, we could be required to pay additional taxes, interest, and penalties, which could result in one-time tax charges, higher effective tax rates, reduced cash flows, and lower overall profitability of our operations.

In addition, the Organisation for Economic Co-operation and Development has initiated a base erosion and profit shifting project that seeks to establish certain international standards for taxing the worldwide income of multinational companies. As a result of these developments, the tax laws of certain countries in which we do business could change on a prospective or retroactive basis, and any such changes could increase our liabilities for taxes, interest, and penalties, and therefore could materially adversely affect our cash flows, financial condition, and results of operations.

Our ability to use our net operating loss carryforwards may be limited.

Under Section 382 of the Internal Revenue Code of 1986, as amended (the “Code”), and corresponding provisions of state law, if a corporation undergoes an “ownership change,” which is generally defined as a greater than 50 percentage point change (by value) in its equity ownership by certain stockholders over a three-year period, the corporation’s ability to use its pre-change net operating loss carryforwards (“NOLs”) to offset its post-change income or taxes may be limited. We have completed a Section 382 study and have determined that none of the operating losses will expire solely due to Section 382 limitations. However, we may experience

ownership changes as a result of subsequent shifts in our stock ownership, some of which may be outside of our control. Such change could limit the amount of NOLs that we can utilize annually to offset future taxable income or tax liabilities. Subsequent ownership changes and changes to the U.S. tax rules in respect of the utilization of NOLs may further affect the limitation in future years. In addition, at the state level, there may be periods during which the use of NOLs is suspended or otherwise limited, which could accelerate or permanently increase state taxes owed.

Changes in our effective tax rate or tax liability may have a material adverse effect on our results of operations.

We are subject to income taxes in the United States and various foreign jurisdictions. The determination of our worldwide provision for income taxes and other tax liabilities requires significant judgment by management, and there are many transactions where the ultimate tax determination is uncertain. We believe that our provision for income taxes is reasonable, but the ultimate tax outcome may differ from the amounts recorded in our consolidated financial statements and may materially affect our financial results in the period or periods in which such outcome is determined.

Our effective tax rate could increase due to several factors, including:

- changes in the relative amounts of income before taxes in the various jurisdictions in which we operate that have differing statutory tax rates;
- changes in tax laws, tax treaties, and regulations or the interpretation of them, such as the Tax Cuts and Jobs Act, the Coronavirus Aid, Relief, and Economic Security Act, and the Inflation Reduction Act;
- changes to our assessment about our ability to realize our deferred tax assets that are based on estimates of our future results, the prudence and feasibility of possible tax planning strategies, and the economic and political environments in which we do business;
- the outcome of current and future tax audits, examinations, or administrative appeals; and
- the effects of acquisitions.

Any of these developments could materially adversely affect our results of operations.

In addition, we may be subject to income tax audits by many tax jurisdictions throughout the world, many of which have not established clear guidance on the tax treatment of SaaS-based companies. Although we believe our income tax liabilities are reasonably estimated and accounted for in accordance with applicable laws and principles, an adverse resolution of one or more uncertain tax positions in any period could have a material adverse effect on the results of operations for that period.

We could be required to collect additional sales or indirect taxes or be subject to other tax liabilities that may increase the costs our customers would have to pay for our products and materially adversely affect our results of operations.

We currently collect and remit applicable sales and indirect taxes and other applicable transfer taxes in jurisdictions where we, through our employees or economic activity, have a presence and where we have determined, based on applicable legal precedents, that sales or licensing of our products are classified as taxable. We do not currently collect and remit state and local excise, utility user and ad valorem taxes, fees, or surcharges in jurisdictions where we believe we do not have sufficient “nexus.” There is uncertainty as to what constitutes sufficient nexus for a state or local jurisdiction to levy taxes, fees, and surcharges for sales made over the internet, and there is also uncertainty as to whether our characterization of our products as not taxable in certain jurisdictions will be accepted by state and local tax authorities.

An increasing number of states have considered or adopted laws that attempt to impose tax collection obligations on out-of-state companies. Additionally, the Supreme Court of the United States ruled in *South Dakota v. Wayfair, Inc. et al* (“*Wayfair*”), that online sellers can be required to collect sales and use tax despite not having a physical presence in the buyer’s state. In response to *Wayfair*, or otherwise, states or local governments may adopt, or begin to enforce, laws requiring us to calculate, collect, and remit taxes on sales in their jurisdictions. A successful assertion by one or more states requiring us to collect taxes where we presently do not do so, or to collect more taxes in a jurisdiction in which we currently do collect some taxes, could result in substantial tax liabilities, including taxes on past sales, as well as penalties and interest. The imposition by state governments or local governments of sales tax collection obligations on out-of-state sellers could also create additional administrative burdens for us, put us at a competitive disadvantage if they do not impose similar obligations on our competitors, and decrease our future sales, which could have a material adverse effect on our business and results of operations.

Our reported financial results may be adversely affected by changes in accounting principles generally accepted in the United States.

U.S. generally accepted accounting principles (“U.S. GAAP”) are subject to interpretation by the Financial Accounting Standards Board, the Securities and Exchange Commission (the “SEC”), and various bodies formed to promulgate and interpret appropriate accounting principles. A change in these principles or interpretations could have a significant effect on our reported results of operations and could affect the reporting of transactions already completed before the announcement of a change.

If our estimates or judgments relating to our critical accounting policies prove to be incorrect, our results of operations could be materially adversely affected.

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the amounts reported in our consolidated financial statements and accompanying notes appearing elsewhere in this Annual Report on Form 10-K. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, as provided in the section titled “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies and Estimates” within this Annual Report on Form 10-K. The results of these estimates form the basis for making judgments about the carrying values of assets, liabilities, and equity, and the amount of revenue and expenses that are not readily apparent from other sources. Significant estimates and judgments involve those related to revenue recognition, deferred commissions, valuation of our stock-based compensation awards, including the determination of fair value of our common stock, valuation of goodwill and intangible assets, accounting for income taxes, and useful lives of long-lived assets, among others. Our results of operations may be materially adversely affected if our assumptions change or if actual circumstances differ from those in our assumptions, which could cause our results of operations to fall below the expectations of securities analysts and investors, resulting in a decline in the trading price of our Class A common stock.

If our goodwill or intangible assets become impaired, we may be required to record a significant charge to earnings.

We review our intangible assets for impairment when events or changes in circumstances indicate the carrying value may not be recoverable. Goodwill is required to be tested for impairment at least annually. An adverse change in market conditions, particularly if such change has the effect of changing one of our critical assumptions or estimates, could result in a change to the estimation of fair value that could result in an impairment charge to our goodwill or intangible assets. Any such charges may have a material adverse effect on our results of operations.

Risks Related to Ownership of Our Class A Common Stock

The trading price of our Class A common stock has been, and in the future, may be, volatile, and could decline significantly and rapidly.

The trading price of our Class A common stock has fluctuated and may in the future fluctuate substantially in response to numerous factors in addition to the ones described in the preceding risk factors, many of which are beyond our control, including:

- actual or anticipated fluctuations in our financial condition, results of operations, or operating metrics and those of our competitors;
- changes in our projected operating and financial results or our failure to meet these projections;
- failure of securities analysts to initiate or maintain coverage of us, changes in financial estimates by any securities analysts who follow our company, or variance in our financial performance from expectations of securities analysts;
- changes in the pricing of our Digital Analytics Platform;
- changes in the anticipated future size or growth rate of our addressable markets;
- changes in laws or regulations applicable to our Digital Analytics Platform;
- announcements by us or our competitors of significant business developments, acquisitions, or new offerings;
- significant data breaches, disruptions to, or other incidents involving, our platform;
- our involvement in litigation;
- changes in our board of directors, senior management, or key personnel;
- the number of shares of our Class A common stock made available for trading;
- future sales of our Class A common stock by us or our stockholders;
- the trading volume of our Class A common stock;
- changes in the anticipated future size and growth rate of our market;

- general economic, market, and industry conditions, including economic slowdowns, recessions, inflationary pressures, rising interest rates, financial market fluctuations, and reduced credit availability;
- other events or factors, including those resulting from war (including the recent and developing war in Ukraine), incidents of terrorism, pandemics (including the COVID-19 pandemic), elections, or responses to these events; and
- whether investors or securities analysts view our stock structure unfavorably, particularly our dual class structure and the concentrated voting control of our executive officers, directors, and their affiliates.

In addition, stock markets with respect to newly public companies, particularly companies in the technology industry, have experienced significant price and volume fluctuations that have affected and continue to affect, the stock prices of these companies. Stock prices of many companies, including technology companies, have fluctuated in a manner often unrelated to the operating performance of those companies. In the past, companies that have experienced volatility in the trading price of their securities have been subject to securities class action litigation. We may be the target of this type of litigation in the future, which could result in substantial expenses and divert our management's attention.

Our principal stockholders have the ability to influence the outcome of director elections and other matters requiring stockholder approval.

As of the date of this Annual Report on Form 10-K, our directors, executive officers, and holders of more than 5% of our capital stock and their affiliates collectively beneficially own, in the aggregate, shares representing a substantial majority of the combined voting power of our outstanding Class A and Class B common stock. These stockholders currently have, and likely will continue to have, considerable influence with respect to the election of our board of directors and approval or disapproval of all significant corporate actions. The concentrated voting power of these stockholders could have the effect of delaying or preventing a significant corporate transaction, such as a merger or other sale of our company or our assets. This concentration of ownership limits the ability of other stockholders to influence corporate matters and may cause us to make strategic decisions that could be adverse to the interests of other stockholders.

The dual class structure of our common stock has the effect of concentrating voting control with our existing stockholders, executive officers, directors, and their affiliates, which limits your ability to influence the outcome of important transactions and to influence corporate governance matters, such as electing directors, and to approve material mergers, acquisitions, or other business combination transactions that may not be aligned with your interests.

Our Class B common stock has five votes per share, whereas our Class A common stock, which is listed on the Nasdaq Capital Market, has one vote per share. Because of the five-to-one voting ratio between our Class B common stock and our Class A common stock, the holders of our Class B common stock are able to exercise considerable influence over matters requiring stockholder approval, including the election of directors and approval of significant corporate transactions, such as a merger or other sale of our company or our assets, even if their stock holdings represent less than 50% of the outstanding shares of our capital stock, until the date that is six months following the date on which no founder is an employee or director of our company (unless a founder has rejoined our company during such six-month period), when all outstanding shares of Class A common stock and Class B common stock will convert automatically into shares of a single class of common stock. This concentration of ownership limits the ability of other stockholders to influence corporate matters and may cause us to make strategic decisions that could involve risks to you or that may not be aligned with your interests. This control may adversely affect the trading price of our Class A common stock.

Further, future transfers by holders of our Class B common stock will generally result in those shares converting into shares of our Class A common stock, subject to limited exceptions, such as certain transfers effected for tax- or estate-planning purposes. The conversion of shares of our Class B common stock into shares of our Class A common stock will have the effect, over time, of increasing the relative voting power of those holders of Class B common stock who retain their shares in the long term. As a result, it is possible that one or more of the persons or entities holding our Class B common stock could gain significant voting control as other holders of Class B common stock sell or otherwise convert their shares into Class A common stock.

In addition, while we do not expect to issue any additional shares of Class B common stock, any future issuances of Class B common stock would be dilutive to holders of Class A common stock.

We cannot predict the impact our dual class structure may have on the trading price of our Class A common stock.

We cannot predict whether our dual class structure, combined with the concentrated control of our stockholders who held our capital stock prior to the listing of our Class A common stock on the Nasdaq Capital Market, including our executive officers, employees, directors, and their affiliates, will result in a lower or more volatile trading price of our Class A common stock or in adverse publicity or other adverse consequences. For example, certain index providers have announced restrictions on including

companies with multiple class share structures in certain of their indices. In July 2017, FTSE Russell and Standard & Poor's announced that they would cease to allow most newly public companies utilizing dual or multiple class capital structures to be included in their indices. Under the announced policies, our dual class capital structure would make us ineligible for inclusion in any of these indices. Given the sustained flow of investment funds into passive strategies that seek to track certain indexes, exclusion from stock indexes would likely preclude investment by many of these funds and could make our Class A common stock less attractive to other investors. As a result, the trading price of our Class A common stock could be adversely affected.

None of our stockholders are party to any contractual lock-up agreement or other contractual restrictions on transfer. Sales of substantial amounts of our Class A common stock in the public markets, or the perception that sales might occur, could cause the trading price of our Class A common stock to decline.

In addition to the supply and demand and volatility factors discussed above, sales of a substantial number of shares of our Class A common stock into the public market, particularly sales by our directors, executive officers, and principal stockholders, or the perception that these sales might occur in large quantities, could cause the trading price of our Class A common stock to decline.

None of our securityholders are subject to any contractual lock-up or other contractual restriction on the transfer or sale of their shares.

Moreover, assuming the availability of certain public information about us, (i) non-affiliates who have beneficially owned our common stock for at least six months may rely on Rule 144 to sell their shares of common stock, and (ii) our directors, executive officers, and other affiliates who have beneficially owned our common stock for at least six months will be entitled to sell their shares of our Class A common stock subject to volume and other limitations under Rule 144 and various vesting agreements.

In addition, we have filed registration statements to register all shares subject to options and RSUs outstanding or reserved for future issuance under our equity compensation plans. As of December 31, 2022, we had options outstanding that, if fully exercised, would result in the issuance of 16,767,752 shares of Class A common stock, as well as 9,914,125 shares of Class A common stock subject to RSU awards.

Accordingly, these shares will be able to be freely sold in the public market upon issuance, subject to applicable vesting requirements and compliance by affiliates with Rule 144.

Further, certain of the holders of our common stock have rights, subject to some conditions, to require us to file registration statements for the public resale of the Class A common stock issuable upon the conversion of shares of our Class B common stock into shares of our Class A common stock or to include such shares in registration statements that we may file for us or other stockholders. Any registration statement we file to register additional shares, whether as a result of registration rights or otherwise, could cause the trading price of our Class A common stock to decline or be volatile.

Our issuance of additional capital stock in connection with financings, acquisitions, investments, our equity incentive plans, or otherwise will dilute all other stockholders.

We expect to issue additional capital stock in the future that will result in dilution to all other stockholders. We expect to grant equity awards to employees, directors, and consultants under our equity incentive plans and issue shares of our Class A common stock under our employee stock purchase plan. We may also raise capital through equity financings in the future. As part of our business strategy, we may acquire or make investments in companies, products, or technologies and issue equity securities to pay for any such acquisition or investment. Any such issuances of additional capital stock may cause stockholders to experience significant dilution of their ownership interests and the per share value of our Class A common stock to decline.

We do not intend to pay dividends for the foreseeable future and, as a result, your ability to achieve a return on your investment will depend on appreciation in the trading price of our Class A common stock.

We have never declared or paid any cash dividends on our capital stock, and we do not intend to pay any cash dividends in the foreseeable future. Any determination to pay dividends in the future will be at the discretion of our board of directors. Accordingly, you may need to rely on sales of our Class A common stock after price appreciation, which may never occur, as the only way to realize any future gains on your investment.

We are no longer an "emerging growth company," and, as a result, we now must comply with increased reporting and disclosure requirements, which may increase our costs.

We no longer qualify as an “emerging growth company” within the meaning of the Securities Act, as modified by the Jumpstart Our Business Startups Act of 2012 (the “JOBS Act”) and, as a result, are subject to various disclosure and compliance requirements that did not previously apply, such as:

- the requirement that our independent registered public accounting firm attest to the effectiveness of our internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act of 2002 (the “Sarbanes-Oxley Act”);
- the requirement that we adopt new or revised accounting standards when they are applicable to public companies, instead of delaying their adoption until they are applicable to private companies;
- compliance with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding obligatory audit firm rotation or a supplement to the auditor’s report providing additional information about the audit and the financial statements;
- the requirement that we provide full and more detailed disclosures regarding executive compensation; and
- the requirement that we hold a non-binding advisory vote on executive compensation and obtain stockholder approval of any golden parachute payments not previously approved.

We expect that the loss of emerging growth company status and compliance with these additional requirements will increase our legal and financial compliance costs and cause management and other personnel to divert attention from operational and other business matters to devote substantial time to public company reporting requirements. In addition, if we are not able to comply with changing requirements in a timely manner, the trading price of our Class A common stock could decline and we could be subject to sanctions or investigations by Nasdaq, the SEC or other regulatory authorities, which would require additional financial and management resources.

Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of our company more difficult, limit attempts by our stockholders to replace or remove our current management, and limit the trading price of our Class A common stock.

Provisions in our restated certificate of incorporation and amended and restated bylaws, may have the effect of delaying or preventing a change of control or changes in our management. Our restated certificate of incorporation and amended and restated bylaws include provisions that:

- authorize our board of directors to issue, without further action by the stockholders, shares of undesignated preferred stock with terms, rights, and preferences determined by our board of directors that may be senior to our Class A common stock;
- require that any action to be taken by our stockholders be effected at a duly called annual or special meeting and not by written consent;
- specify that special meetings of our stockholders can be called only by our board of directors;
- establish an advance notice procedure for stockholder proposals to be brought before an annual meeting, including proposed nominations of persons for election to our board of directors;
- establish that our board of directors is divided into three classes, with each class serving three-year staggered terms;
- prohibit cumulative voting in the election of directors;
- provide that our directors may only be removed for cause;
- provide that vacancies on our board of directors may be filled only by a majority of directors then in office, even though less than a quorum; and
- require the approval of our board of directors or the holders of at least 66 2/3% of our outstanding shares of voting stock to amend our bylaws and certain provisions of our certificate of incorporation.

These provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors, which is responsible for appointing the members of our management. In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which generally, subject to certain exceptions, prohibits a Delaware corporation from engaging in any of a broad range of business combinations with any “interested” stockholder for a period of three years following the date on which the stockholder became an “interested” stockholder. Any of the foregoing provisions could limit the price that investors might be willing to pay in the future for shares of our Class A common stock, and they could deter potential acquirers of our company, thereby reducing the likelihood that you would receive a premium for your shares of our Class A common stock in an acquisition.

Claims for indemnification by our directors and officers may reduce our available funds to satisfy successful third-party claims against us and may reduce the amount of money available to us.

Our restated certificate of incorporation and amended and restated bylaws provide that we will indemnify our directors and officers, in each case to the fullest extent permitted by Delaware law.

In addition, as permitted by Section 145 of the Delaware General Corporation Law, our amended and restated bylaws and indemnification agreements that we have entered into with our directors and officers provide that:

- we will indemnify our directors and officers for serving us in those capacities or for serving other business enterprises at our request, to the fullest extent permitted by Delaware law. Delaware law provides that a corporation may indemnify such person if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the corporation and, with respect to any criminal proceeding, had no reasonable cause to believe such person's conduct was unlawful;
- we may, in our discretion, indemnify employees and agents in those circumstances where indemnification is permitted by applicable law;
- we are required to advance expenses, as incurred, to our directors and officers in connection with defending a proceeding, except that such directors or officers shall undertake to repay such advances if it is ultimately determined that such person is not entitled to indemnification;
- the rights conferred in our amended and restated bylaws are not exclusive, and we are authorized to enter into indemnification agreements with our directors, officers, employees, and agents and to obtain insurance to indemnify such persons; and
- we may not retroactively amend our amended and restated bylaws to reduce our indemnification obligations to directors, officers, employees, and agents.

While we have procured directors' and officers' liability insurance policies, such insurance policies may not be available to us in the future at a reasonable rate, may not cover all potential claims for indemnification, and may not be adequate to indemnify us for all liability that may be imposed.

Our restated certificate of incorporation and amended and restated bylaws provide for an exclusive forum in the Court of Chancery of the State of Delaware for certain disputes between us and our stockholders, and that the federal district courts of the United States will be the exclusive forum for the resolution of any complaint asserting a cause of action under the Securities Act.

Our restated certificate of incorporation and our amended and restated bylaws provide that: (i) unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware (or, if such court does not have subject matter jurisdiction thereof, the federal district court of the State of Delaware) will, to the fullest extent permitted by law, be the sole and exclusive forum for: (A) any derivative action or proceeding brought on our behalf, (B) any action asserting a claim for or based on a breach of a fiduciary duty owed by any of our current or former directors, officers, other employees, agents, or stockholders to us or our stockholders, including, without limitation, a claim alleging the aiding and abetting of such a breach of fiduciary duty, (C) any action asserting a claim against us or any of our current or former directors, officers, other employees, agents, or stockholders arising pursuant to any provision of the Delaware General Corporation Law or our restated certificate of incorporation or amended and restated bylaws or as to which the Delaware General Corporation Law confers jurisdiction on the Court of Chancery of the State of Delaware, or (D) any action asserting a claim related to or involving us that is governed by the internal affairs doctrine; (ii) unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States of America will, to the fullest extent permitted by law, be the sole and exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act and the rules and regulations promulgated thereunder; (iii) the exclusive forum provisions are intended to benefit and may be enforced by us, our officers and directors, the financial advisors to any offering giving rise to such complaint, and any other professional or entity whose profession gives authority to a statement made by that person or entity and who has prepared or certified any part of the documents underlying the offering; and (iv) any person or entity purchasing or otherwise acquiring or holding any interest in our shares of capital stock will be deemed to have notice of and consented to these provisions. Nothing in our restated certificate of incorporation or amended and restated bylaws precludes stockholders that assert claims under the Exchange Act from bringing such claims in federal court, to the extent that the Exchange Act confers exclusive federal jurisdiction over such claims, subject to applicable law.

We believe these provisions may benefit us by providing increased consistency in the application of Delaware law and federal securities laws by chancellors and judges, as applicable, particularly experienced in resolving corporate disputes, efficient administration of cases on a more expedited schedule relative to other forums, and protection against the burdens of multi-forum litigation. If a court were to find the choice of forum provision contained in our restated certificate of incorporation or our amended

and restated bylaws to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could materially adversely affect our business, financial condition, and results of operations.

General Risk Factors

Our inability to attract and retain highly skilled employees could materially adversely affect our business.

In order to execute our growth plan, we must attract and retain highly qualified personnel. Competition for these personnel in the San Francisco Bay Area, where our headquarters is located, and in other locations where we engage in recruiting, is intense, especially for engineers experienced in designing and developing software and for experienced sales professionals. We have, from time to time experienced, and we expect to continue to experience, difficulty in hiring and retaining employees with appropriate qualifications. The cost of living is high in the San Francisco Bay Area, which may make it harder for us to attract and retain highly skilled employees. Many of the companies with which we compete for experienced personnel may have greater resources than we do. As our company grows and evolves, we may need to implement more complex organizational management structures or adapt our corporate culture and work environments. These changes could have an adverse impact on our corporate culture, which could harm our ability to retain and recruit personnel. If we hire employees from competitors or other companies, their former employers may attempt to assert that these employees or we have breached their legal obligations, resulting in a diversion of our time and resources. In addition, job candidates and existing employees often consider the value of the equity awards they receive in connection with their employment. If the perceived value of our equity awards declines, it may adversely affect our ability to recruit and retain highly skilled employees. If we fail to attract new personnel or fail to retain and motivate our current personnel, our business and growth prospects could be materially adversely affected.

We depend on our executive officers and other key employees, and the loss of one or more of these employees could materially adversely affect our business.

Our success depends largely upon the continued services of our executive officers and other key employees. We rely on our leadership team in the areas of research and development, operations, security, marketing, sales, support, general and administrative functions, and on individual contributors in our research and development and operations. From time to time, there may be changes in our executive management team resulting from the hiring or departure of executives, which could disrupt our business. We do not have employment agreements with our executive officers or other key personnel that require them to continue to work for us for any specified period; therefore, they could terminate their employment with us at any time. The loss of one or more of our executive officers, especially our Chief Executive Officer, or key employees could have an adverse effect on our business.

Changes in the business, regulatory, or political climate in the San Francisco Bay Area could adversely affect our operations.

Changes in the business, regulatory, or political climate in the San Francisco Bay Area, where our headquarters is located and most of our employees live, could affect our ability to expand or continue our operations there, which could have a material adverse impact on our business, financial condition, and results of operations. For example, if we were required to move our headquarters or downsize our operations in the San Francisco Bay Area due to material adverse changes in the business, regulatory, or political climate, such as increases in local tax rates, we may lose key employees and incur significant costs of relocation.

Changes in laws and regulations related to the internet or changes in the internet infrastructure itself may diminish the demand for our Digital Analytics Platform, and could harm our business.

The future success of our business depends upon our customers' and potential customers' access to the internet. Federal, state, or foreign government bodies or agencies have in the past adopted, and may in the future adopt, laws or regulations affecting the use of the internet. Changes in these laws or regulations could require us to modify our platform in order to comply with these changes. In addition, government agencies or private organizations may impose additional laws, regulations, standards, or protocols involving taxation, tariffs, privacy, data protection, information security, content, copyrights, distribution, electronic contracts and other communications, consumer protection, and the characteristics and quality of services, any of which could decrease the demand for our Digital Analytics Platform or result in reductions in the demand for internet-based platforms such as ours. In addition, the use of the internet as a business tool could be harmed due to delays in the development or adoption of new standards and protocols to handle increased demands of internet activity, security, reliability, cost, ease-of-use, accessibility, and quality of service. The performance of the internet and its acceptance as a business tool has been harmed by "viruses," "worms," and similar malicious programs, and the internet has experienced a variety of outages and other delays as a result of damage to portions of its infrastructure. If the use of the internet is adversely affected by these issues, demand for our Digital Analytics Platform could decline.

Our estimates of market opportunity and forecasts of market growth may prove to be inaccurate, and even if the market in which we compete achieves the forecasted growth, our business could fail to grow at similar rates, if at all.

Market opportunity estimates and growth forecasts, including those we have generated ourselves, are subject to significant uncertainty and are based on assumptions and estimates that may not prove to be accurate. The variables that go into the calculation of our market opportunity are subject to change over time, and there is no guarantee that any particular number or percentage of companies covered by our market opportunity estimates will purchase our Digital Analytics Platform or generate any particular level of revenue for us. Any expansion in our markets depends on a number of factors, including the cost, performance, and perceived value associated with our Digital Analytics Platform and the products of our competitors. Even if the markets in which we compete achieve the forecasted growth, our business could fail to grow at similar rates, if at all.

Acquisitions, mergers, strategic investments, partnerships, or alliances could be difficult to identify, pose integration challenges, divert the attention of management, disrupt our business, dilute stockholder value, and materially adversely affect our business, financial condition, and results of operations.

We have in the past sought, and intend in the future to seek, to acquire or invest in businesses, joint ventures, and platform technologies that we believe could complement or expand our Digital Analytics Platform, enhance our technology, or otherwise offer growth opportunities. Any such acquisitions or investments may divert the attention of management and cause us to incur various expenses in identifying, investigating, and pursuing suitable opportunities, whether or not the transactions are completed, and may result in unforeseen operating difficulties and expenditures. In particular, we may encounter difficulties assimilating or integrating the businesses, technologies, products, personnel, or operations of any acquired companies, particularly if the key personnel of an acquired company choose not to work for us, the acquired company's software is not easily adapted to work with our platform, or we have difficulty retaining the customers of any acquired business due to changes in ownership, management, or otherwise. Any such transactions that we are able to complete may not result in the synergies or other benefits we expect to achieve, which could result in substantial impairment charges. These transactions could also result in dilutive issuances of equity securities, the incurrence of debt, or adverse tax consequences, which could materially adversely affect our business, financial condition, and results of operations.

Our business could be disrupted by catastrophic occurrences and similar events.

Natural disasters or other catastrophic events may cause damage or disruption to our operations, international commerce, and the global economy, and could harm our business. We have a large employee presence in San Francisco, California. In the event of a major earthquake, fire, power loss, telecommunications failure, cyberattack, war (including the war in Ukraine), terrorist attack, sabotage, other intentional acts of vandalism or misconduct, geopolitical event, disease, or other catastrophic occurrence, we may be unable to continue our operations and may endure system interruptions, reputational harm, delays in our application development, lengthy interruptions in our products, breaches of data security, and loss of critical data, all of which could materially adversely affect our business, financial condition, and results of operations.

Additionally, we rely on our network and third-party infrastructure and applications, internal technology systems, and our websites for our development, marketing, operational support, hosted services, and sales activities. If these systems were to fail or be negatively impacted as a result of a natural disaster or other catastrophic event, our ability to deliver products to our customers would be impaired.

As we grow our business, the need for business continuity planning, incident response planning, and disaster recovery plans will grow in significance. If we are unable to develop adequate plans to ensure that our business functions continue to operate during and after a disaster, and successfully execute on those plans in the event of a disaster or emergency, our business and reputation would be harmed.

If securities or industry analysts do not publish research or publish unfavorable or inaccurate research about our business, the trading price and trading volume of our Class A common stock could decline.

The trading price and trading volume of our Class A common stock will be heavily influenced by the way analysts interpret our financial information and other disclosures. We do not have control over these analysts. If few securities analysts commence coverage of us, or if industry analysts cease coverage of us, the trading price of our Class A common stock would be negatively affected. If securities or industry analysts do not publish research or reports about our business, downgrade our Class A common stock, or publish negative reports about our business, the trading price of our Class A common stock would likely decline. If one or more of these analysts cease coverage of us or fail to publish reports on us regularly, demand for our Class A common stock could decrease, which could decrease the trading volume of our Class A common stock and might cause the trading price of our Class A common stock to decline.

We incur significant costs as a result of operating as a public company, and our management needs to devote substantial time to compliance with our public company responsibilities and corporate governance practices.

As a public company, we incur significant legal, accounting, and other expenses that we did not incur as a private company. The Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Consumer Protection Act, Nasdaq rules, and other applicable securities rules and regulations impose various requirements on public companies. Our management and other personnel need to devote a substantial amount of time to compliance with these requirements. Moreover, these rules and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly. We cannot predict or estimate the amount of additional costs we will incur as a public company or the specific timing of such costs.

As a public company, we are obligated to develop and maintain proper and effective internal control over financial reporting, and any failure to maintain the adequacy of these internal controls may adversely affect investor confidence in our company and, as a result, the value of our Class A common stock.

We are required, pursuant to Section 404 of the Sarbanes-Oxley Act, to furnish a report by management on, among other things, the effectiveness of our internal control over financial reporting on an annual basis, beginning with this Annual Report on Form 10-K for the fiscal year ended December 31, 2022. This assessment needs to include disclosure of any material weaknesses identified by our management in our internal control over financial reporting. In addition, our independent registered public accounting firm is required to attest to the effectiveness of our internal control over financial reporting beginning with this Annual Report on Form 10-K for the fiscal year ended December 31, 2022. Our compliance with Section 404 requires that we incur substantial expenses and expend significant management efforts. Such expenses and efforts have been directed to employing additional accounting and financial personnel with appropriate public company experience and technical accounting knowledge, and compiling the system and process documentation necessary to establish the compliance and controls function to comply with Section 404 of the Sarbanes-Oxley Act.

During the evaluation and testing process of our internal controls, if we identify one or more material weaknesses in our internal control over financial reporting, we will be unable to certify that our internal control over financial reporting is effective. We cannot assure you that there will not be material weaknesses or significant deficiencies in our internal control over financial reporting in the future. Any failure to maintain internal control over financial reporting could severely inhibit our ability to accurately report our financial condition or results of operations. If we are unable to conclude that our internal control over financial reporting is effective, or if our independent registered public accounting firm determines we have a material weakness or significant deficiency in our internal control over financial reporting, we could lose investor confidence in the accuracy and completeness of our financial reports, the trading price of our Class A common stock could decline, and we could be subject to sanctions or investigations by the SEC or other regulatory authorities. Failure to remedy any material weakness in our internal control over financial reporting, or to implement or maintain other effective control systems required of public companies, could also restrict our future access to the capital markets.

Item 1B. Unresolved Staff Comments.

Not applicable.

Item 2. Properties.

Our principal executive office is located in San Francisco and consists of approximately 57,530 square feet of space under a sublease that expires on September 30, 2025. We also lease six additional offices in Amsterdam, Paris, Singapore, London, Vancouver, and New York. We lease all of our facilities and do not own any real property. We intend to procure additional space in the future as we continue to add employees and expand geographically. We believe our facilities are adequate and suitable for our current needs and that, should it be needed, suitable additional or alternative space will be available to accommodate our operations.

Item 3. Legal Proceedings.

From time to time, we may be subject to legal proceedings and claims in the ordinary course of business. We believe that we are not presently a party to any legal proceedings that, if determined adversely to us, would individually or taken together have a material adverse effect on our business, results of operations, financial condition or cash flows. We have received, and may in the future continue to receive, claims from third parties asserting, among other things, infringement of their intellectual property rights. Future litigation may be necessary to defend ourselves, our partners and our customers by determining the scope, enforceability and validity of third-party proprietary rights, or to establish our proprietary rights. The results of any current or future litigation cannot be predicted with certainty, and regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors.

Item 4. Mine Safety Disclosures.

Not Applicable.

PART II

Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

Market Price of Our Common Stock

Our Class A common stock has been traded on the Nasdaq Capital Market under the symbol “AMPL” since September 28, 2021. Prior to that date, there was no public trading market for our Class A common stock. Our Class B common stock is neither listed nor publicly traded.

Holders of our Common Stock

As of February 8, 2023, there were 31 holders of record of our Class A common stock and 37 holders of record of our Class B common stock. The actual number of stockholders is greater than the number of holders of record and includes stockholders who are beneficial owners but whose shares are held in street name by brokers and other nominees.

Dividend Policy

We have never declared or paid any cash dividend on our common stock. We do not expect to declare or pay any cash dividends in the foreseeable future.

Securities Authorized for Issuance under Equity Compensation Plans

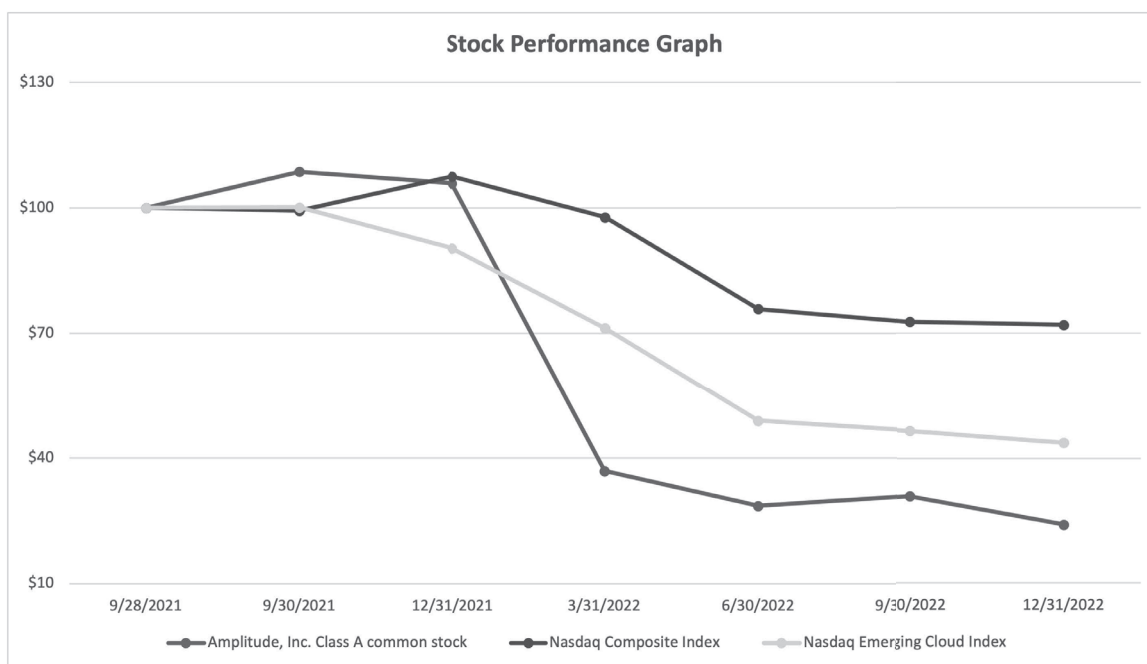
See the section titled “Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters” for information regarding securities authorized for issuance.

Stock Performance Graph

This performance graph shall not be deemed “soliciting material” or to be “filed” with the SEC, for purposes of Section 18 of the Exchange Act, or otherwise subject to the liabilities under that Section, and shall not be deemed to be incorporated by reference into any of our filings under the Securities Act.

The following graph compares (i) the cumulative total stockholder return on our Class A common stock from September 28, 2021 (the date our Class A common stock commenced trading on the Nasdaq Capital Market) through December 31, 2022 with (ii) the cumulative total return of the Nasdaq Composite Index and the Nasdaq Emerging Cloud Index over the same period, assuming the investment of \$100 in our Class A common stock and in both of the other indices on September 28, 2021 and the reinvestment of dividends. The graph uses the beginning market price on September 28, 2021 of \$50 per share as the initial value of our Class A

common stock. As discussed above, we have never declared or paid a cash dividend on our Class A common stock and do not anticipate declaring or paying a cash dividend in the foreseeable future.



Recent Sales of Unregistered Equity Securities

None.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

None.

Item 6. [Reserved.]

Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations.

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our consolidated financial statements and related notes included elsewhere in this Annual Report on Form 10-K. As discussed in the section titled “Special Note Regarding Forward-Looking Statements,” the following discussion and analysis contains forward-looking statements that involve risks and uncertainties, as well as assumptions that, if they never materialize or prove incorrect, could cause our results to differ materially from those expressed or implied by such forward-looking statements. Factors that could cause or contribute to these differences include, but are not limited to, those identified below and those discussed in the section titled “Risk Factors” under Part I, Item 1A in this Annual Report on Form 10-K. Our fiscal year ends December 31.

Unless the context otherwise requires, all references in this report to “Amplitude,” the “Company,” “we,” “our,” “us,” or similar terms refer to Amplitude, Inc. and its subsidiaries.

Overview

Amplitude is a leading Digital Analytics Platform that provides self-service visibility into the entire customer journey. With Amplitude, organizations can build amazing product experiences, drive revenue growth, and win their categories. We work with almost 2,000 paying customers of various sizes and stages of digital maturity, across many industries, including the teams behind some of the most-beloved digital products in the world. We have experienced significant growth in recent years, with more than 700 employees in seven global offices.

At the core of our Digital Analytics Platform is our Behavioral Graph, a proprietary, purpose-built behavioral database that is the largest of its kind. Our Behavioral Graph instantly finds patterns, makes recommendations, and connects customer actions along their journeys to the right business outcomes, like engagement, growth, and loyalty. We architected our Behavioral Graph to power numerous products, beginning with our core product analytics solution. Consistently ranked #1 in multiple categories by G2, Amplitude Analytics provides real-time product data so cross-functional teams can understand what is working and what is not. We have since expanded our offerings to include products that enable teams to build personalized product experiences, test product changes, and improve data quality across their technology stack.

We have experienced significant growth in recent years driven by the rapid adoption of our Digital Analytics Platform by our global, diversified base of 1,994 paying customers as of December 31, 2022. Our customers span across industries and sizes, from the leading digital innovators to those looking to transform and adapt their business in the new digital age. For the years ended December 31, 2022 and 2021, our revenue was \$238.1 million and \$167.3 million, respectively, representing year-over-year growth of 42%. For the years ended December 31, 2022 and 2021, our net loss was \$93.4 million and \$75.0 million, respectively. For the years ended December 31, 2022 and 2021, our net cash used in operating activities was \$5.4 million and \$31.7 million, respectively, and our free cash flow was \$(11.2) million and \$(34.9) million, respectively.

Our Business Model

We generate revenue primarily through selling subscriptions to our platform. We reach customers through an efficient direct sales motion, solution partners, and product-led growth initiatives, including subscription plans to meet the needs of a diverse range of companies. For the year ended December 31, 2022, subscription revenue comprised 97% of our total revenue. Our customers typically look to use our platform for an initial business use case they have identified, such as analytics on a digital product. As our customers experience the value of our platform in helping to drive business outcomes in that initial use case, they frequently expand that initial use case, expand into new use cases, and expand into additional products. Examples of ways customers expand the use of our platform include the following:

- Customers expand an initial use case by tracking additional events on a digital product to gain greater insight into customer journeys or add additional functionality (e.g. predictive analytics, behavioral reports) to meet the needs of teams across the organization;
- Customers expand into new use cases by using our platform for additional digital products in their digital product portfolio and empowering additional teams (e.g. product, marketing, engineering, analytics) responsible for those digital products; and
- Customers expand by layering on additional offerings onto our core Analytics offering to power new capabilities to drive business outcomes.

Our pricing model is based on both the platform functionality required by our customers as well as committed event volume. An event could be any action that a user takes in a digital product, such as ‘Create account’, ‘Add to cart’, or ‘Share photo’. Events can also be actions that occur in a product without user action, such as ‘Verification completed’. Customers have the flexibility to choose the events sent to our platform and can also attach custom properties to an event to enable greater insight on the digital product end user.

We have been effective in helping our customers to gauge the proper event volume to contract to ensure that they maximize their investment in our platform. In situations where customers exceed their committed event volume in a given period, they incur overage charges that we have the contractual right to bill at our discretion. Depending on the circumstances, we often use this as an opportunity to renegotiate a customer contract to ensure they have the right contracted event volume to meet their business objectives. Historically, overage charges have not made up a significant portion of our revenue. In many cases, customers will proactively expand their contract within the contract term, generally increasing event volume and platform capabilities to expand existing or address new use cases. Substantially all of our customer contracts have a subscription period of one year or longer. In the fiscal year ended December 31, 2022, we billed a majority of these contracts annually in advance with the remainder billed quarterly, semi-annually, or monthly.

We offer a variety of plans that are right-sized to match the depth and breadth of our customers’ needs and complexity. Our *Starter* plan is a free-tier, self-service option that allows prospects to easily sign up and begin to leverage the power of the platform in rapid fashion. This plan includes core product analytics with the ability to track up to 10 million events per month. Users of this plan

get access to unlimited user seats and are encouraged to add additional team members across functions to proliferate the use of our platform within their organization.

If a prospect outgrows the usage limits in the *Starter* plan or requires additional features such as predictive analytics, behavioral reports, or additional event volume, we offer a *Growth* plan that requires conversion to a paid subscription contract. *Growth* plan users also get access to dedicated customer support to further maximize the value from our platform. Customers that require the complete analytics tool kit to handle more scale and larger, sophisticated use cases can purchase our *Enterprise* plan. The *Enterprise* plan includes everything in the *Growth* plan as well as additional robust features such as advanced data governance, custom user permissions and roles, automated insights, and more. At any point, a customer that needs additional capabilities can purchase add-on functionality or products, which are natively integrated with Amplitude Analytics.

Our land-and-expand business model is powered by the ease of use, rapid time to value, and broad applicability of our platform to provide actionable insights in real time to numerous teams across an organization. This model has enabled us, in many cases, to significantly expand the reach of our platform within organizations.

As of December 31, 2022, we had 480 customers that each represented greater than \$100,000 in ARR and 30 customers that each represented greater than \$1 million in ARR, demonstrating the mission critical nature of our platform to help customers succeed in the new digital age. In comparison, we had 385 customers that each represented greater than \$100,000 in ARR and 29 customers that each represented greater than \$1 million in ARR for the years ended December 31, 2021. Customers that each represented greater than \$100,000 in ARR accounted for approximately 75% and 73% of our total ARR as of December 31, 2022 and 2021, respectively. We define ARR as the annual recurring revenue of subscription agreements, including certain premium professional services that are subject to contractual subscription terms, at a point in time based on the terms of customers' contracts. ARR should be viewed independently of revenue, and does not represent our U.S. GAAP revenue on an annualized basis, as it is an operating metric that can be impacted by contract start and end dates and renewal rates. No single customer accounted for more than 4% of our revenue in the years ended December 31, 2022 and 2021.

Our ability to expand within our customer base is also demonstrated by our strong dollar-based net retention rate. As of December 31, 2022 and 2021, our dollar-based net retention rate across paying customers was 119% and 123%, respectively.

Key Factors Affecting Our Performance

We believe that the growth and future success of our business depends on many factors. While each of these factors presents significant opportunities for our business, they also pose important challenges that we must successfully address in order to sustain our growth and improve our results of operations.

Customer Acquisition and Expansion

We believe that our Digital Analytics Platform can help businesses across industries, company size, and stages of digital maturity drive better business outcomes through optimizing the digital product experience of their customers. We are focused on continuing to acquire new customers and expanding our relationships with our existing installed base to support our long-term growth. We have invested, and expect to continue to invest, in our sales and marketing efforts to drive customer acquisition.

As of December 31, 2022 and 2021, we had 1,994 and 1,597 paying customers, respectively, representing an increase of 25% year-over-year. As of December 31, 2022 and 2021, 28 and 26 of the Fortune 100 were paying customers, respectively, which demonstrates both our traction to date as well as our significant opportunity to continue to penetrate into the largest global organizations. Our relationship with some of the world's most beloved product-led companies has resulted in increased brand credibility and access to many attractive growth opportunities.

We have been successful at efficiently growing our customer spend over time as evidenced by our dollar-based net retention rates. As of December 31, 2022 and 2021, our dollar-based net retention rate was 119% and 123%, respectively, for paying customers. We continue to increase the number of customers who have entered and grown into larger subscriptions with us. As of December 31, 2022 and 2021, we had 480 and 385 customers, respectively, that each represented greater than \$100,000 in ARR, representing a 25% increase year-over-year. Additionally, we had 30 and 29 customers, respectively, that each represented greater than \$1 million in ARR, up 3% year-over-year. The number of customers representing greater than \$100,000 and \$1 million in ARR demonstrates the strategic importance of our platform and our ability to both initially land significant accounts and grow them over time.

Investments in Platform

We believe that our customers will demand additional features and capabilities beyond our current platform offerings to assist them in optimizing their digital products. We have a history of, and will continue to invest significantly in, developing and delivering innovative products, features, and functionality targeted at our core customer base. In addition, we may choose to add new products

and offerings or enhance our platform capabilities through acquisitions. In 2020, we acquired ClearBrain to bolster our predictive analytics capabilities, and in 2021, we acquired Iteratively, a software company that bolsters our ability to empower developers to more quickly, easily, and accurately instrument data into our platform. Going forward, we may pursue both strategic partnerships and acquisitions that we believe will be complementary to our business, accelerate customer acquisition, increase usage of our platform, and/or expand our product offerings in our core markets.

Investing for Growth

Our investment for growth encompasses multiple critical areas, including product expansion, our sales force, sales support, partner ecosystem, and our international presence. We continue to evolve our technology to ensure that we are best serving our customers' needs. We believe this will lead to continued increased retention and positive customer referrals that will continue to generate expansion opportunities within our existing installed base and from new customers. We plan to continue to invest in our research and development organization to maintain and strengthen our market leadership position, and we believe that attracting the best engineering talent will continue to be critical to our long-term success. As we continue to invest in our platform, we expect our research and development expenses to continue to increase in dollar amount, and although we believe these expenses as a percentage of revenue will decrease over the longer term, we expect that these expenses as a percentage of revenue will increase in the short term as we invest in product innovation.

We will continue to invest in expanding our sales force and associated sales support to pursue attractive growth opportunities and ensure customer success, particularly with larger enterprises where we have experienced significant traction to date. We also plan to invest in our channel partners, such as independent software vendors, and resellers, to extend our reach faster than we could do on our own. As we continue to invest in our sales efforts, we expect our sales and marketing expenses to continue to increase in dollar amount, and although we believe these expenses as a percentage of revenue will decrease over the longer term, we expect these expenses as a percentage of revenue will increase in the short term as we invest in sales growth.

Finally, we see opportunities to expand offices and headcount internationally to better service targeted international markets where we believe we have significant opportunity to accelerate existing traction and success. For the years ended December 31, 2022 and 2021, 38% and 36% of our revenue was generated outside the United States, respectively. As we seek to expand our business globally, we may be adversely affected by global economic and political instability. For example, as a result of the Russia-Ukraine war, we terminated certain relationships with customers in Russia and some of the businesses of our customers in the impacted regions have experienced disruptions that have affected their ability to pay for our services. See "Risk Factors—Risks Related to Our Business and Industry—Our operations are international in scope, and we plan further geographical expansion, creating a variety of operational challenges."

Key Business Metrics

We review a number of operating and financial metrics, including the following key metrics to evaluate our business, measure our performance, identify trends affecting our business, formulate business plans, and make strategic decisions. We are not aware of any uniform standards for calculating these key metrics, which may hinder comparability with other companies who may calculate similarly-titled metrics in a different way.

	As of		YoY Growth
	December 31,		
	2022	2021	
Paying Customers	1,994	1,597	25%
Dollar-Based Net Retention Rate	119%	123%	N/A

Paying Customers

We believe our ability to grow the number of paying customers on our platform provides a key indicator of the demand for our platform, growth of our business, and our future business opportunities. Increasing awareness of our platform and its broad range of capabilities, coupled with the mainstream adoption of cloud-based technology, has expanded the diversity of our customer base to include organizations of different sizes across virtually all industries.

For purposes of customer count, a customer is defined as an entity that has a unique Dunn & Bradstreet Global Ultimate ("GULT") Data Universal Numbering System ("DUNS") number and an active subscription contract as of the measurement date. The DUNS number is a global standard for business identification and tracking. We make exceptions for holding companies, government entities, and other organizations for which the GULT, in our judgment, does not accurately represent the Amplitude customer or the DUNS does not exist.

Dollar-Based Net Retention Rate

We calculate our dollar-based net retention rate to measure our ability to retain and expand ARR from our customers and believe it is an indicator of the value our platform delivers to customers and our future business opportunities. Our dollar-based net retention rate compares our ARR from the same set of customers across comparable periods and reflects customer renewals, expansion, contraction, and attrition. We define ARR as the annual recurring revenue of subscription agreements, including certain premium professional services that are subject to contractual subscription terms, at a point in time based on the terms of customers' contracts. ARR should be viewed independently of revenue, and does not represent our U.S. GAAP revenue on an annualized basis, as it is an operating metric that can be impacted by contract start and end dates and renewal rates.

We calculate dollar-based net retention rate as of a period-end by starting with the ARR from the cohort of all customers as of 12 months prior to such period-end (the "Prior Period ARR"). We then calculate the ARR from these same customers as of the current period-end (the "Current Period ARR"). Current Period ARR includes any expansion and is net of contraction or attrition over the last 12 months, but excludes ARR from new customers as well as any overage charges in the current period. We then divide the total Current Period ARR by the total Prior Period ARR to arrive at the point-in-time dollar-based net retention rate. We then calculate the weighted average of the trailing 12-month point-in-time dollar-based net retention rates, to arrive at the dollar-based net retention rate.

Response to COVID-19

The COVID-19 pandemic has had an adverse effect on the global economy, including the businesses of many of our customers and prospective customers and did, in the early stages of the pandemic, result in increased attrition from our smaller customers and those customers in the most impacted industries such as travel and entertainment. Overall, however, the COVID-19 pandemic resulted in favorable trends for our business and the businesses of those customers who have been able to leverage digital analytics of their products as sales increasingly shifted online, but such trends have normalized.

Although we believe the COVID-19 pandemic has largely resulted in favorable trends for our business to date, we have experienced business disruptions, including requiring us to manage a significant majority of our workforce remotely and restrictions on our ability to travel to customers. Moreover, our existing and prospective customers have experienced and may continue to experience slowdowns in their businesses, including due to ongoing worldwide supply chain disruptions, which in turn has and may result in reduced demand for our platform, lengthening of sales cycles, loss of customers, and difficulties in collections. In addition, the pandemic resulted in, and may in the future result in, significant disruption of global financial markets, which could limit our or our customers' ability to access capital on favorable terms or at all. The ongoing impact of the pandemic on our future business, financial condition, and results of operations depends on the pandemic's duration and severity, which are difficult to assess or predict. See "Risk Factors" included under Part I, Item 1A of this Annual Report on Form 10-K for further discussion of the impact of the COVID-19 pandemic on our business.

Non-GAAP Financial Measures

The following table presents certain non-GAAP financial measures, along with the most directly comparable U.S. GAAP measure, for each period presented below. In addition to our results determined in accordance with U.S. GAAP, we believe these non-GAAP financial measures are useful in evaluating our operating performance. See below for a description of the non-GAAP financial measures and their limitations as an analytical tool. A reconciliation is also provided below for each non-GAAP financial measure to the most directly comparable financial measure stated in accordance with U.S. GAAP.

The following Non-GAAP Financial Measures and related Non-GAAP reconciliations are for the year ended December 31, 2022, compared to the same period in 2021, unless otherwise stated. Non-GAAP Financial Measures and related Non-GAAP reconciliations for the year ended December 31, 2021 compared to the year ended December 31, 2020 may be found in the section

titled “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in our Annual Report on Form 10-K for the fiscal year ended December 31, 2021, filed with the SEC on February 17, 2022.

	Year Ended December 31,	
	2022	2021
Gross Profit	\$ 167,625	\$ 115,497
Non-GAAP Gross Profit	\$ 176,110	\$ 119,100
Gross Margin	70%	69%
Non-GAAP Gross Margin	74%	71%
Loss from Operations	\$ (96,562)	\$ (74,149)
Non-GAAP Loss from Operations	\$ (26,248)	\$ (14,640)
Loss from Operations Margin	(41)%	(44)%
Non-GAAP Loss from Operations Margin	(11)%	(9)%
Net Cash Used in Operating Activities	\$ (5,384)	\$ (31,713)
Free Cash Flow	\$ (11,193)	\$ (34,935)
Net Cash Used in Operating Activities Margin	(2)%	(19)%
Free Cash Flow Margin	(5)%	(21)%

Non-GAAP Gross Profit, Non-GAAP Gross Margin, Non-GAAP Loss from Operations, and Non-GAAP Loss from Operations Margin

We define non-GAAP gross profit and non-GAAP gross margin as U.S. GAAP gross profit and U.S. GAAP gross margin, respectively, excluding stock-based compensation expense and related employer payroll taxes, amortization of acquired intangible assets, and non-recurring costs, such as costs related to the listing of our Class A common stock on the Nasdaq Capital Market (the “Direct Listing”). Non-GAAP gross margin is calculated as non-GAAP gross profit divided by total revenue.

We define non-GAAP loss from operations and non-GAAP loss from operations margin as U.S. GAAP loss from operations and U.S. GAAP loss from operations margin, respectively, excluding stock-based compensation expense and related employer payroll taxes, amortization of acquired intangible assets, and non-recurring costs, such as Direct Listing costs. Non-GAAP loss from operations margin is calculated as non-GAAP loss from operations divided by total revenue.

We exclude stock-based compensation expense and related employer payroll taxes, which is a non-cash expense, from certain of our non-GAAP financial measures because we believe that excluding this item provides meaningful supplemental information regarding operational performance. We exclude amortization of intangible assets, which is a non-cash expense, related to business combinations from certain of our non-GAAP financial measures because such expenses are related to business combinations and have no direct correlation to the operation of our business. Although we exclude these expenses from certain non-GAAP financial measures, the revenue from acquired companies subsequent to the date of acquisition is reflected in these measures and the acquired intangible assets contribute to our revenue generation. We exclude non-recurring costs from certain of our non-GAAP financial measures because such expenses do not repeat period over period and are not reflective of the ongoing operation of our business.

We use non-GAAP gross margin and non-GAAP loss from operations margin in conjunction with traditional U.S. GAAP measures to evaluate our financial performance. We believe that non-GAAP gross margin and non-GAAP loss from operations margin provide our management and investors consistency and comparability with our past financial performance and facilitates period-to-period comparisons of operations.

Free Cash Flow and Free Cash Flow Margin

We define free cash flow as net cash used in operating activities, less cash used for purchases of property and equipment and capitalized internal-use software costs. Free cash flow margin is calculated as free cash flow divided by total revenue. We believe that free cash flow and free cash flow margin are useful indicators of liquidity that provide information to management and investors, even if negative, about the amount of cash used in our operations other than that used for investments in property and equipment and capitalized internal-use software costs.

Limitations and Reconciliations of Non-GAAP Financial Measures

Non-GAAP financial measures are presented for supplemental informational purposes only. Non-GAAP financial measures have limitations as analytical tools and should not be considered in isolation or as substitutes for financial information presented under U.S. GAAP. There are a number of limitations related to the use of non-GAAP financial measures versus comparable financial measures determined under U.S. GAAP. For example, other companies in our industry may calculate these non-GAAP financial measures differently or may use other measures to evaluate their performance. In addition, free cash flow does not reflect our future contractual commitments and the total increase or decrease of our cash balance for a given period. All of these limitations could reduce the usefulness of these non-GAAP financial measures as analytical tools. Investors are encouraged to review the related U.S. GAAP financial measures and the reconciliations of these non-GAAP financial measures to their most directly comparable U.S. GAAP financial measures and to not rely on any single financial measure to evaluate our business.

The following tables reconcile the most directly comparable U.S. GAAP financial measure to each of these non-GAAP financial measures.

Non-GAAP Gross Profit and Gross Margin

	Year Ended December 31,	
	2022	2021
Gross profit	\$ 167,625	\$ 115,497
Add:		
Stock-based compensation expense ⁽¹⁾	\$ 6,468	\$ 1,952
Acquired intangible assets amortization	\$ 2,017	\$ 1,651
Non-GAAP Gross Profit	\$ 176,110	\$ 119,100
Non-GAAP Gross Margin	74%	71%

(1) Stock-based compensation expense-related charges include employer payroll tax-related expenses on employee stock transactions.

Non-GAAP Loss From Operations and Loss From Operations Margin

	Year Ended December 31,	
	2022	2021
Loss from operations	\$ (96,562)	\$ (74,149)
Add:		
Stock-based compensation expense ⁽¹⁾	\$ 68,297	\$ 39,667
Acquired intangible assets amortization	\$ 2,017	\$ 1,651
Direct listing expenses	\$ —	\$ 18,191
Non-GAAP Loss from Operations	\$ (26,248)	\$ (14,640)
Non-GAAP Loss from Operations Margin	(11)%	(9)%

(1) Stock-based compensation expense-related charges include employer payroll tax-related expenses on employee stock transactions.

Free Cash Flow and Free Cash Flow Margin

	Year Ended December 31,	
	2022	2021
Net cash used in investing activities	\$ (89,393)	\$ (1,498)
Net cash provided by financing activities	\$ 5,831	\$ 222,643
Net cash used in operating activities	\$ (5,384)	\$ (31,713)
Less:		
Purchase of property and equipment	\$ (3,632)	\$ (1,529)
Capitalization of internal-use software costs	\$ (2,177)	\$ (1,693)
Free Cash Flow	\$ (11,193)	\$ (34,935)
Free Cash Flow Margin	(5)%	(21)%

Components of Results of Operations

Revenue

We generate revenue primarily from sales of subscription services for customers to access our platform. Revenue is driven primarily by the number of paying customers and the level of subscription plan. We generally recognize revenue ratably over the related contractual term beginning on the date that the platform is made available to a customer. Revenue from professional services have primarily been attributed to implementation and training services. We recognize professional services revenue as services are delivered.

Cost of Revenue

Cost of revenue consists primarily of the cost of providing our platform to our customers and consists of third-party hosting fees, personnel-related expenses for our operations and support personnel, and amortization of our capitalized internal-use software and acquired developed software. As we acquire new customers and existing customers increase their use of our platform, we expect that our cost of revenue will continue to increase in dollar amount.

Gross Profit and Gross Margin

Gross profit, or revenue less cost of revenue, and gross margin, or gross profit as a percentage of revenue, has been and will continue to be affected by various factors, including the timing of our acquisition of new customers, renewals of, and follow-on sales to, existing customers, costs associated with operating our platform, and the extent to which we expand our operations and customer support organizations. In the long term, we expect our gross profit to increase in dollar amount and our gross margin to improve as we optimize our system performance and leverage ingested data for new products.

Operating Expenses

Our operating expenses consist of research and development, sales and marketing, and general and administrative expenses. Personnel-related expenses are the most significant component of operating expenses and consist of salaries, benefits, stock-based compensation expense, and, in the case of sales and marketing expenses, sales commissions. Operating expenses also include an allocation of overhead costs for facilities and shared IT-related expenses. As we continue to invest in our business, we expect our operating expenses to continue to increase in dollar amount, and although we believe our operating expenses as a percentage of revenue will decrease over the longer term, we expect operating expenses as a percentage of revenue will increase in the short term as we invest in product innovation and sales growth and incur additional professional services and compliance costs as we operate as a public company.

Research and Development

Research and development expenses consist primarily of personnel-related expenses. These expenses also include product design costs prior to the application development stage, third-party services and consulting expenses, software subscriptions, and allocated overhead costs for overhead used in research and development activities. A substantial portion of our research and development efforts are focused on enhancing our software, including researching ways to add new features and functionality to our platform. We anticipate continuing to invest in innovation and technology development, and as a result, we expect research and development expenses to continue to increase in dollar amount but to decrease as a percentage of revenue over the longer term, although the percentage may fluctuate from quarter to quarter depending on the extent and timing of product development initiatives. In the short term, we expect research and development costs to increase as a percentage of revenue as we invest in product innovation. We also anticipate additional stock-based compensation expense in future periods due to planned increases in headcount and associated new hire grants.

Sales and Marketing

Sales and marketing expenses consist primarily of personnel-related expenses and expenses for performance marketing and lead generation, and brand marketing. These expenses also include allocated overhead costs and travel-related expenses. Sales commissions earned by our sales force that are considered incremental and recoverable costs of obtaining a subscription with a customer are deferred and amortized on a straight-line basis over the expected period of benefit of five years.

We continue to make investments in our sales and marketing organization, and we expect sales and marketing expenses to remain our largest operating expense in dollar amount. We expect our sales and marketing expenses to continue to increase in dollar amount but to decrease as a percentage of revenue over the longer term, although the percentage may fluctuate from quarter to quarter depending on the extent and timing of our marketing initiatives. In the short term, we expect sales and marketing costs to increase as a percentage of revenue as we invest in product sales growth. We also anticipate additional stock-based compensation expense in future periods due to planned increases in headcount and associated new hire grants.

General and Administrative

General and administrative expenses consist primarily of personnel-related expenses for our finance, human resources, information technology, and legal organizations. These expenses also include non-personnel costs, such as outside legal, accounting, and other professional fees, software subscriptions, as well as certain tax, license, and insurance-related expenses, and allocated overhead costs.

We have also incurred certain expenses as part of operating as a publicly-traded company, including professional fees and other expenses. We expect to continue to incur additional expenses as a result of operating as a public company, including costs to comply with the rules and regulations applicable to companies listed on the Nasdaq Capital Market LLC and costs related to compliance and reporting obligations pursuant to the rules and regulations of the Securities and Exchange Commission. In addition, as a public company, we incur additional costs associated with accounting, compliance, insurance, and investor relations. As a result, we expect our general and administrative expenses to continue to increase in dollar amount for the foreseeable future but to generally decrease as a percentage of our revenue over the longer term, although the percentage may fluctuate from period to period depending on the timing and amount of our general and administrative expenses, including in the short term as we expect to incur increased compliance and professional service costs. We also anticipate additional stock-based compensation expense in future periods due to planned increases in headcount and associated new hire grants.

Other Income, Net

Other income, net consists primarily of interest income on our cash, cash equivalents, and marketable securities holdings offset by foreign currency transaction gains and losses.

Provision for Income Taxes

Provision for income taxes consists primarily of income taxes in certain foreign jurisdictions in which we conduct business. To date, we have not recorded any U.S. federal income tax expense, and our state and foreign income tax expenses have not been material. We have recorded deferred tax assets for U.S. federal income taxes for which we provide a full valuation allowance. These deferred tax assets primarily include net operating loss carryforwards of \$422.2 million and tax credit carryforwards of \$9.1 million, net of reserves as of December 31, 2022, which begin expiring in 2032 and 2033, respectively. We expect to maintain this full valuation allowance in U.S. jurisdictions for the foreseeable future as it is not more likely than not the deferred tax assets will be realized based on our history of losses.

Results of Operations

The following tables set forth our results of operations for the periods presented and as a percentage of our revenue for those periods. The period-to-period comparison of financial results is not necessarily indicative of financial results to be achieved in future periods.

The following discussion and analysis are for the year ended December 31, 2022, compared to the same period in 2021, unless otherwise stated. Discussion and analysis for the year ended December 31, 2021 compared to the year ended December 31, 2020 may be found in the section titled “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in our Annual Report on Form 10-K for the fiscal year ended December 31, 2021, filed with the SEC on February 17, 2022.

	Year Ended December 31,	
	2022	2021
	<i>(in thousands)</i>	
Revenue	\$ 238,067	\$ 167,261
Cost of revenue ⁽¹⁾	70,442	51,764
Gross profit	167,625	115,497
Operating expenses:		
Research and development ⁽¹⁾	80,589	48,251
Sales and marketing ⁽¹⁾	129,962	86,025
General and administrative ⁽¹⁾	53,636	55,370
Total operating expenses	264,187	189,646
Loss from operations	(96,562)	(74,149)
Other income, net	3,981	195
Loss before provision for income taxes	(92,581)	(73,954)
Provision for income taxes	796	1,029
Net loss	\$ (93,377)	\$ (74,983)

(1) Amounts include stock-based compensation expense as follows:

	Year Ended December 31,	
	2022	2021
	<i>(in thousands)</i>	
Cost of revenue	\$ 6,468	\$ 1,951
Research and development	27,855	13,613
Sales and marketing	17,143	7,871
General and administrative	15,757	10,959
Total stock-based compensation expense	\$ 67,223	\$ 34,394

The following table sets forth the components of our consolidated statements of operations and comprehensive loss data, for each of the periods presented, as a percentage of revenue.

	Year Ended December 31,	
	2022	2021
Revenue	100%	100%
Cost of revenue	30%	31%
Gross margin	70%	69%
Operating expenses:		
Research and development	34%	29%
Sales and marketing	55%	51%
General and administrative	23%	33%
Total operating expenses	111%	113%
Loss from operations	(41)%	(44)%
Other income, net	2%	*
Loss before provision for income taxes	(39)%	(44)%
Provision for income taxes	*	1%
Net loss	(39)%	(45)%

* less than 1%

Note: Certain figures may not sum due to rounding

Comparison of Fiscal Years Ended December 31, 2022 and 2021

Revenue

	Year Ended December 31,			
	2022	2021	\$ Change	% Change
	<i>(in thousands, except percentages)</i>			
Revenue	\$ 238,067	\$ 167,261	\$ 70,806	42%

Revenue increased \$70.8 million, or 42%, in fiscal 2022 compared to fiscal 2021. The increase in revenue was primarily due to growth of our paying customer base of 25% and revenue generated from our existing paying customers as reflected by our dollar-based net retention of 119% as of December 31, 2022.

Cost of Revenue and Gross Margin

	Year Ended December 31,			
	2022	2021	\$ Change	% Change
	<i>(in thousands, except percentages)</i>			
Cost of revenue	\$ 70,442	\$ 51,764	\$ 18,678	36%
Gross margin	70%	69%	N/A	N/A

Cost of revenue increased \$18.7 million, or 36%, in fiscal 2022 compared to fiscal 2021. The increase was primarily due to an increase of \$9.2 million in personnel-related expenses directly associated with an increase in headcount, including an increase in allocated overhead costs, and \$8.5 million in third-party hosting costs as we increased capacity to support paying customer usage and growth of our paying customer base. Additionally, cost of revenue increased by \$1.0 million due to the amortization of acquired intangibles assets related to our business combinations and amortization of internal-use software costs.

Operating Expenses

	Year Ended December 31,		\$ Change	% Change
	2022	2021		
	<i>(in thousands, except percentages)</i>			
Research and development	\$ 80,589	\$ 48,251	\$ 32,338	67%
Sales and marketing	129,962	86,025	43,937	51%
General and administrative	53,636	55,370	(1,734)	(3%)
Total operating expenses	<u>\$ 264,187</u>	<u>\$ 189,646</u>	<u>\$ 74,541</u>	39%

Research and Development

Research and development expenses increased \$32.3 million, or 67%, in fiscal 2022 compared to fiscal 2021. The increase was primarily due to an increase of \$19.0 million in personnel-related expenses directly associated with an increase in headcount, including an increase in allocated overhead costs. The increase was also attributable to an increase of \$12.0 million in stock-based compensation expense and related payroll taxes as a result of increased headcount.

Sales and Marketing

Sales and marketing expenses increased \$43.9 million, or 51%, in fiscal 2022 compared to fiscal 2021. The increase was primarily due to an increase of \$20.5 million in personnel-related expenses directly associated with an increase in headcount, including an increase in allocated overhead costs. The increase in headcount also contributed to an increase of \$3.5 million in commissions related to an expansion of our customer base, contract value of deals, and sales team. This increase was also attributable to \$7.7 million in stock-based compensation expenses and related payroll taxes as a result of increased headcount. An increase of \$7.6 million related to expenses to support our marketing, lead generation, and advertising programs and an increase of \$1.9 million in software subscription costs contributed to the overall increase.

General and Administrative

General and administrative expenses decreased \$1.7 million, or 3%, in fiscal 2022 compared to fiscal 2021. The decrease was primarily attributable to a \$16.3 million decrease in professional services attributable to fees related to the Direct Listing that were incurred in fiscal 2021 that did not recur in fiscal 2022. The decrease was partially offset by a \$4.4 million increase in stock-based compensation expenses and related payroll taxes and an increase of \$3.9 million in personnel-related expenses directly associated with an increase in headcount, including an increase in allocated overhead costs. This decrease was also partially offset by an increase in corporate expenses of \$3.3 million, primarily related to increased insurance costs, and an increase in subscription software costs of \$2.0 million.

Other Income, net

	Year Ended December 31,		\$ Change	% Change
	2022	2021		
	<i>(in thousands, except percentages)</i>			
Other income, net	\$ 3,981	\$ 195	\$ 3,786	*

* Not meaningful

Other income, net increased \$3.8 million, in fiscal 2022 compared to fiscal 2021. The increase was primarily related to a \$3.7 million increase in interest income resulting from interest earned on our cash, cash equivalents, and the marketable securities purchased in the year ended December 31, 2022.

Provision for Income Taxes

	Year Ended December 31,		\$ Change	% Change
	2022	2021		
	<i>(in thousands, except percentages)</i>			
Provision for income taxes	\$ 796	\$ 1,029	\$ (233)	(23%)

Provision for income taxes decreased \$0.2 million, or 23%, in fiscal 2022 compared to fiscal 2021, primarily due to decreased foreign taxes, including deferred tax balances.

Liquidity and Capital Resources

Since inception, we have financed operations primarily through the net proceeds we have received from the sales of our preferred stock and common stock as well as cash generated from the sale of subscriptions to our platform. We have generated losses from our operations as reflected in our accumulated deficit of \$273.2 million as of December 31, 2022 and negative cash flows from operating activities for fiscal 2022 and fiscal 2021. Our future capital requirements will depend on many factors, including revenue growth and costs incurred to support our platform, including growth in our customer base and customer usage, increased research and development expenses to support the growth of our business and related infrastructure, and increased general and administrative expenses to support being a public company.

As of December 31, 2022, our principal sources of liquidity were cash and cash equivalents of \$218.5 million and restricted cash of \$0.9 million. Additionally, a substantial source of our cash provided by operating activities is our deferred revenue, which is included on our consolidated balance sheets as a liability. Deferred revenue consists of the unearned portion of billed fees for our subscriptions, which is recorded as revenue over the term of the subscription agreement. As of December 31, 2022, we had \$90.0 million of deferred revenue, all of which was recorded as a current liability. This deferred revenue will be recognized as revenue when or as the related performance obligations are met.

We assess our liquidity primarily through our cash on hand as well as the projected timing of billings under contract with our paying customers and related collection cycles. We believe our current cash and cash equivalents on hand will be sufficient to meet our working capital and capital expenditure requirements for at least the next 12 months. In the event that additional financing is required from outside sources, we may seek to raise additional funds at any time through equity, equity-linked arrangements, and debt. If we are unable to raise additional funds when desired and at reasonable rates, our business, results of operations, and financial condition would be adversely affected. See “Risk Factors—Risks Related to Our Business and Industry—We may require additional capital to support the growth of our business, and this capital might not be available on acceptable terms, if at all.”

Cash Flows

The following table shows a summary of our cash flows for the periods presented:

	Year Ended December 31,	
	2022	2021
	<i>(in thousands)</i>	
Net cash used in operating activities	\$ (5,384)	\$ (31,713)
Net cash used in investing activities	\$ (89,393)	\$ (1,498)
Net cash provided by financing activities	\$ 5,831	\$ 222,643

Operating Activities

Our largest source of operating cash is cash collection from sales of subscriptions to our paying customers. Our primary uses of cash from operating activities are for personnel-related expenses, marketing expenses, and third-party hosting-related and software expenses. In the last several years, we have generated negative cash flows from operating activities and have supplemented working capital requirements through net proceeds from the sale of preferred stock and common stock.

Net cash used in operating activities of \$5.4 million for the fiscal 2022 reflects our net loss of \$93.4 million, adjusted by non-cash items such as stock-based compensation expense of \$67.2 million, depreciation and amortization of \$4.7 million, and non-cash operating lease costs of \$3.7 million as well as net cash provided by changes in our operating assets and liabilities of \$12.3 million. The net cash provided by changes in operating assets and liabilities primarily consisted of a \$20.7 million increase in deferred revenue, resulting from increased billings and collections for subscriptions, a net increase in accrued expenses and accounts payable of \$1.7 million due to timing of payments made, and a net decrease in prepaid expenses and other current and noncurrent assets of \$4.0 million. These changes were offset by an increase in deferred commissions of \$8.0 million, a \$2.4 million increase in accounts receivable due to higher customer billing, and a \$3.6 million decrease in operating lease liabilities due to payments related to our operating lease obligations.

Net cash used in operating activities of \$31.7 million for fiscal 2021 reflects our net loss of \$75.0 million, adjusted by non-cash items such as stock-based compensation expense of \$34.4 million, and depreciation and amortization of \$3.1 million, as well as net cash provided by changes in our operating assets and liabilities of \$6.2 million. The net cash provided by changes in our operating assets and liabilities primarily consisted of a \$28.5 million increase in deferred revenue, resulting from increased billings for subscriptions, and a \$4.5 million increase in accrued expenses and accounts payable, resulting primarily from increases in accrued professional services, marketing, accrued payroll, and benefits due to an increase in the size of our operations. These increases were partially offset by a \$16.7 million increase in prepaid expenses and other current and noncurrent assets related to an increase in prepayments made in advance for future services, an increase in deferred commissions of \$9.2 million, and a \$3.0 million increase in accounts receivable due to higher customer billings.

Investing Activities

Net cash used in investing activities of \$89.4 million for fiscal 2022 consisted of \$83.2 million of purchases of marketable securities, \$2.2 million of capitalized internal-use software development costs, \$3.6 million in purchases of property and equipment, and \$0.4 million of cash paid for acquisitions, net of cash acquired.

Net cash used in investing activities of \$1.5 million for fiscal 2021 consisted of \$1.7 million in capitalized internal-use software development costs and \$1.5 million in purchases of property and equipment. These decreases were partially offset by \$1.7 million in net cash acquired upon the acquisition of a privately-held company.

Financing Activities

Net cash provided by financing activities of \$5.8 million for fiscal 2022 primarily consisted of \$6.9 million in proceeds from the exercise of stock options offset by \$1.1 million of net cash used through sales of common stock to cover tax-related amounts that were remitted to the respective taxing jurisdictions in excess of cash received during the period. It is expected that cash received and paid for these amounts will be cash flow neutral over time.

Net cash provided by financing activities of \$222.6 million for fiscal 2021 primarily consisted of \$199.8 million in net proceeds from the sale and issuance of Series F preferred stock, \$21.8 million in proceeds from the exercise of stock options, and \$1.1 million of net cash provided through sales of common stock to cover tax-related amounts that had not yet been remitted to the respective taxing jurisdictions. It is expected that this \$1.1 million net cash received will be paid in subsequent periods and will be recorded as a financing cash outflow at such time.

Remaining Performance Obligations

Remaining performance obligations (“RPO”) as of December 31, 2022 and 2021, including the expected timing of recognition, is as follows:

	As of December 31,		
	2022	2021	% Change
Less than or equal to 12 months	\$ 190,595	\$ 137,266	39%
Greater than 12 months	57,581	32,868	75%
Total remaining performance obligations	\$ 248,176	\$ 170,134	46%

Our RPO represents the amount of contracted future revenue that has not yet been recognized, including both deferred revenue and non-cancellable contracted amounts that will be invoiced and recognized as revenue in future periods. RPO excludes performance obligations from overages. RPO is influenced by a number of factors, including the timing of renewals, the timing of purchases,

average contract terms, and seasonality. Due to these factors, it is important to review RPO in conjunction with product revenue and other financial metrics disclosed elsewhere in this Annual Report on Form 10-K.

Contractual Obligations and Commitments

As of December 31, 2022, the contractual commitment amounts in the table below are associated with agreements that are enforceable and legally binding. Purchase orders issued in the ordinary course of business are not included in the table below, as our purchase orders represent authorizations to purchase rather than binding agreements.

	<u>Total</u>	<u>2023</u>	<u>2024-2025</u>	<u>2026-2027</u>	<u>After 2027</u>
	<i>(in thousands)</i>				
Operating lease and real estate-related commitments ⁽¹⁾	\$ 11,681	\$ 4,176	\$ 7,120	\$ 385	\$ —
Purchase commitments ⁽²⁾	228,475	64,567	119,575	44,333	—
Total contractual obligations	\$ 240,156	\$ 68,743	\$ 126,695	\$ 44,718	\$ —

(1) Consists of future real estate-related non-cancellable minimum rental payments under operating leases and real estate commitments with substitution rights.

(2) Included in this commitment is a hosting arrangement with AWS. We entered into the 60-month contract in August 2021. The contract may be terminated by either party if the other party is in material breach of the contract and such breach remains uncured for 30 days. Pursuant to the terms of the contract, we are required to spend a minimum of \$267 million over the five-year term of the contract. As of December 31, 2022, we had \$227 million remaining on this commitment.

Indemnification Agreements

In the ordinary course of business, we enter into agreements of varying scope and terms pursuant to which we agree to indemnify customers, vendors, lessors, business partners, and other parties with respect to certain matters, including, but not limited to, losses arising out of the breach of such agreements, services to be provided by us, or from intellectual property infringement claims made by third parties. Additionally, we have entered into indemnification agreements with our directors and certain officers and employees that will require us, among other things, to indemnify them against certain liabilities that may arise by reason of their status or service as directors, officers, or employees. No demands have been made upon us to provide indemnification under such agreements, and there are no claims that we are aware of that could reasonably be expected to have a material effect on our financial position, results of operations, or cash flows.

Critical Accounting Policies and Estimates

Our financial statements are prepared in accordance with U.S. GAAP. The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, and expenses, as well as related disclosures. We evaluate our estimates and assumptions on an ongoing basis. Our estimates are based on historical experience and various other assumptions that we believe to be reasonable under the circumstances. Our actual results could differ from these estimates.

The critical accounting estimates, assumptions, and judgments that we believe have the most significant impact on our consolidated financial statements are described below.

Revenue Recognition

We generate revenue primarily from sales of subscription services. Revenue is recognized when, or as, the RPO is satisfied by transferring the control of the promised service to a customer. The amount of revenue recognized reflects the consideration that we expect to be entitled to receive in exchange for these services. We account for revenue contracts with customers by applying the requirements of ASC 606, which includes the following steps:

- identification of the contract, or contracts, with the customer;
- identification of the performance obligations in the contract;
- determination of the transaction price;
- allocation of the transaction price to the performance obligations in the contract; and
- recognition of the revenue when, or as, a performance obligation is satisfied.

Our SaaS subscription agreements with customers enable them to access and send event volume data to our cloud-based platform. Subscription arrangements with customers do not provide the customer with the right to take possession of the Company's software at any time. Instead, customers are granted continuous access to the platform over the contractual period. A time-elapsed method is used to measure progress because the Company's obligation is to provide continuous service over the contractual period and control is transferred evenly over the contractual period. Accordingly, the fixed consideration related to subscription revenue is recognized ratably over the contract term beginning on the date access to the subscription product is provisioned. The typical subscription term is 12 months with various payment terms ranging from monthly to annual up-front payments. Most contracts are non-cancellable over the contractual term and are subject to standard terms and conditions; however, certain contracts contain nonstandard terms that may impact the timing of revenue recognition. Some customers have the option to purchase additional subscription services at a stated price. These options are evaluated on a case-by-case basis but generally do not provide a material right as they do not provide a discount to the customer that is incremental to the range of discounts typically given for the same services that are sold to a similar class of customers, even when the stand-alone selling price of the services subject to the option is highly variable.

Deferred Contract Acquisition Costs (Deferred Commissions)

We capitalize sales commissions that are recoverable and incremental due to the acquisition of customer contracts. We determine whether costs should be deferred based on its sales compensation plans, if the commissions are in fact incremental and would not have occurred absent the customer contract.

Commissions paid upon the initial acquisition of a contract are deferred and then amortized on a straight-line basis over a period of benefit, determined to be five years. The period of benefit is estimated by considering factors such as the expected life of our subscription contracts, historical customer attrition rates, technological life of our platform, as well as other factors. Sales commissions for renewal of a subscription contract are not considered commensurate with the commissions paid for the acquisition of the initial subscription contract given the substantive difference in commission rates between new and renewal contracts. We determine the period of benefit for renewal subscription contracts by considering the contractual term for renewal contracts.

Amounts anticipated to be recognized within 12 months of the balance sheet date are recorded as deferred commissions, current, with the remaining portion recorded as deferred commissions, noncurrent, in the consolidated balance sheets. Amortization of deferred commissions is included in sales and marketing expense in the consolidated statements of operations and comprehensive loss. We periodically review these deferred commissions to determine whether events or changes in circumstances have occurred that could impact recoverability or the period of benefit. There were no impairment losses recorded during the periods presented.

Stock-based Compensation

We measure and recognize compensation expense for all stock-based payment awards granted to employees, directors, and non-employees based on the estimated fair values on the date of the grant and vesting criteria. For options, vesting is typically over a four-year period and is contingent upon continued employment on each vesting date. In general, options granted to newly hired employees vest 25% after the first year of service and ratably each month over the remaining 36-month period. For RSUs, vesting is typically over a three-year period and is contingent upon continued employment on each vesting date. In general, RSUs granted to employees vest ratably each quarter over the 36-month period.

The fair value of options granted are estimated on the grant date. Options granted pursuant to the 2021 Incentive Award Plan (the "2021 Plan") are valued utilizing the Black-Scholes option pricing model and options granted pursuant to the 2014 Stock Option and Grant Plan (as amended, the "2014 Plan") are valued utilizing the Monte Carlo simulation model. The determination of the grant date fair value is affected by the estimated fair value of our common stock as well as additional assumptions regarding a number of other subjective variables. These variables include expected stock price volatility over a contractual or expected term, actual and projected employee stock option exercise behaviors, the risk-free interest rate for a contractual or expected term, and expected dividends. For assumptions utilized in each respective model, refer to Note 5 of the consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K.

We recognize compensation expense for service-based stock-based awards as an expense over the employee's or director's requisite service period on a straight-line basis. We also have certain options and awards that have performance-based vesting conditions upon certain liquidity events. As a result of the Direct Listing, the liquidity event was met for all outstanding awards with a performance condition and therefore the related expense was recognized using the accelerated attribution method. Forfeitures are accounted for as they occur. Stock-based compensation expense is allocated to cost of revenue and operating expenses on the consolidated statements of operations based on the associated employee's functional department.

Determining Fair Value of Stock Options

The fair value of each option granted to employees under the 2021 Plan is estimated on the grant date using the Black-Scholes pricing model. Based on the nature of the underlying options granted under the 2014 Plan, the fair value of each option granted to employees is estimated on the date of grant using the Monte Carlo simulation model. The fair value of each grant of stock option was determined by us using the two methods and the respective assumptions discussed below. The determination of each of these inputs is subjective and generally requires a level of judgment.

Expected volatility – The expected stock price volatility assumption was determined by examining the historical volatilities of a group of industry peers over a period equal to the expected life of the options, as we did not have sufficient trading history for our common stock.

Contractual term (Monte Carlo) – The contractual term of stock options is used to model the expected exercise behavior of the option holders with a 10-year exercise period. This method utilizes a Monte Carlo simulation based on historical exercise data as the options are not considered to be "plain-vanilla" where a simplified method is allowed as certain holders have up until option expiration to exercise regardless of employment status. The Monte Carlo simulation models expected exercise behavior utilizing an estimated stock price at which the holder of the option would choose to exercise an option prior to the end of the stated term. For this assumption, we utilized a value multiple on the strike price of 4.0 times.

Expected term (Black-Scholes) – Expected term represents the period that our stock-based awards are expected to be outstanding. The expected term assumptions are determined based on the vesting terms, exercise terms, and contractual lives of the options. For stock options considered to be "plain-vanilla" options, we estimate the expected term based on the simplified method, which is essentially the weighted average of the vesting period and contractual term, as our historical option exercise experience does not provide a reasonable basis upon which to estimate the expected term.

Expected dividend – The expected dividend assumption was based on our history and expectation that it will not declare dividend payout for the near future.

Risk-free interest rate – The risk-free interest rate is based on the U.S. Treasury zero coupon issues in effect at the time of grant for periods corresponding with the contractual terms.

Fair value of common stock – Prior to the Direct Listing, the fair value of our common stock was determined by our board of directors, which intended all options granted to be exercisable at a price per share not less than the per share fair value of common stock underlying those options on the date of grant. The valuations of our common stock were determined in accordance with the guidelines outlined in the American Institute of Certified Public Accountants Practice Aid, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*. The board of directors considered numerous objective and subjective factors to determine the fair value of our common stock at each meeting in which awards were approved. The factors considered included, but were not limited to:

- (i) the results of contemporaneous independent third-party valuations of our common stock;
- (ii) the prices, rights, preferences, and privileges of our redeemable convertible preferred stock relative to those of its common stock;
- (iii) the lack of marketability of our common stock;
- (iv) actual operating and financial results;
- (v) current business conditions and projections;
- (vi) the likelihood of achieving a liquidity event, such as an initial public offering, direct listing, or sale of our Company, given prevailing market conditions; and
- (vii) precedent transactions involving our shares.

In valuing our common stock, the fair value of our business was determined using various valuation methods, including combinations of income and market approaches. The income approach estimates value based on the expectation of future cash flows that our company will generate. These future cash flows are discounted to their present values using a discount rate that is derived from an analysis of the cost of capital of comparable publicly-traded companies in our industry or similar business operations as of each valuation date and is adjusted to reflect the risks inherent in our cash flows. The market approach estimates value based on a comparison of our company to comparable public companies in a similar line of business and similar to us in economic drivers and operating characteristics. From the comparable companies, a representative market value multiple is determined and then applied to our prior financial results and future financial forecasts to estimate the value of our business. Concurrent with preferred stock

financings, we also used the option pricing model to back solve the value of our common stock utilizing our most recent round of financing, which implies a total equity value as well as a per share common stock value.

For each valuation, the fair value of our business determined by the income and market approaches was then allocated to the common stock using either the option-pricing method (“OPM”), or a hybrid of the probability-weighted expected return method (“PWERM”) and OPM methods.

Our valuations prior to March 31, 2021 were allocated based on the OPM. Beginning March 31, 2021, our valuations were allocated based on a hybrid method of the PWERM and the OPM. Using the PWERM, the value of our common stock was estimated based upon a probability-weighted analysis of varying values for our common stock assuming possible future events for our company, including a scenario assuming we became a publicly-traded company and a scenario assuming we continued as a privately-held company.

In addition, we also considered and included secondary transactions involving our capital stock in our valuations. In our evaluation of those transactions, we considered the facts and circumstances of each transaction to determine the extent to which they represented a fair value exchange. Factors considered include transaction volume, timing, whether the transactions occurred among willing and unrelated parties, and whether the transactions involved investors with access to our financial information.

For valuations after the Direct Listing, our board of directors determined the fair value of each share of underlying Class A common stock based on the closing price of our Class A common stock on the Nasdaq Capital Market as reported on the date of grant. As our Class A common stock is publicly traded, it is subject to potentially significant fluctuations in the trading price. Increases and decreases in the trading price of our Class A common stock will increase and decrease the fair value of our stock-based awards granted in future periods.

Recent Accounting Pronouncements

See Note 1 to our consolidated financial statements included in Part II, Item 8 of this Annual Report on Form 10-K for more information regarding recent accounting pronouncements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

Interest Rate Risk

Our cash and cash equivalents and marketable securities primarily consist of cash on hand and highly liquid investments in money market funds and U.S. government securities. As of December 31, 2022, we had cash and cash equivalents of \$218.5 million and marketable securities, including non-current investments, of \$83.2 million. We do not enter into investments for trading or speculative purposes. Our investments are exposed to market risk due to fluctuations in interest rates, which may affect our interest income on cash and cash equivalents. However, an immediate 10% increase or decrease in interest rates would not have a material effect on the fair value of our portfolio. We therefore do not expect our operating results or cash flows to be materially affected by a sudden change in market interest rates.

Foreign Currency Risk

The vast majority of our subscription agreements are denominated in U.S. dollars, with a small number of subscription agreements denominated in foreign currencies. A portion of our operating expenses are incurred outside the United States, denominated in foreign currencies, and subject to fluctuations due to changes in foreign currency exchange rates, particularly changes in the Euro, British Pound, Canadian Dollar, Singapore Dollar, Australian Dollar, and Japanese Yen. Additionally, fluctuations in foreign currency exchange rates may cause us to recognize transaction gains and losses in our consolidated statements of operations. As the impact of foreign currency exchange rates has not been material to our historical operating results, we have not entered into derivative or hedging transactions, but we may do so in the future if our exposure to foreign currency becomes more significant. A hypothetical 10% increase or decrease in the relative value of the U.S. dollar to other currencies would not have a material effect on our operating results.

Inflation Risk

We do not believe that inflation has had a material effect on our business, results of operations, or financial condition. Nonetheless, if our costs were to become subject to significant inflationary pressures, we may not be able to fully offset such higher costs. Our inability or failure to do so could harm our business, results of operations, or financial condition.

Item 8. Financial Statements and Supplementary Data.

	<u>Page</u>
Report of Independent Registered Public Accounting Firm (PCAOB ID 185).....	68
Consolidated Balance Sheets	70
Consolidated Statements of Operations and Comprehensive Loss.....	71
Consolidated Statements of Redeemable Convertible Preferred Stock and Stockholders' Equity (Deficit).....	72
Consolidated Statements of Cash Flows	73
Notes to Consolidated Financial Statements	74

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Amplitude, Inc.:

Opinions on the Consolidated Financial Statements and Internal Control Over Financial Reporting

We have audited the accompanying consolidated balance sheets of Amplitude, Inc. and subsidiaries (the Company) as of December 31, 2022 and 2021, the related consolidated statements of operations and comprehensive loss, redeemable convertible preferred stock and stockholders' equity (deficit), and cash flows for each of the years in the three-year period ended December 31, 2022, and the related notes (collectively, the consolidated financial statements). We also have audited the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2022, in conformity with U.S. generally accepted accounting principles. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022 based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's consolidated financial statements and an opinion on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of a critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Revenue arrangements with non-standard terms and conditions

As discussed in Note 1 to the consolidated financial statements, the Company derives revenue primarily from sales of subscription services. Most customer contracts are subject to standard terms and conditions; however, certain contracts contain non-standard terms and conditions that may impact the timing of revenue recognition. For the year ended December 31, 2022, the Company's revenue was \$238.1 million, which included revenue related to sales of SaaS subscription arrangements.

We identified the evaluation of revenue from SaaS subscription arrangements with non-standard terms and conditions as a critical audit matter. Significant auditor judgment was required to evaluate the Company's assessment of the impact on revenue recognition of certain terms and conditions that are unique to certain contracts. Specifically, complex auditor judgment was required to evaluate the Company's determination of the timing of revenue recognition for SaaS subscription arrangements with non-standard terms and conditions.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls related to the Company's revenue recognition process, including controls related to the assessment of contractual terms that impact the determination of the timing of SaaS subscription revenue recognition. We selected a sample of SaaS subscription revenue transactions and evaluated the Company's identification and assessment of the terms and conditions impacting revenue recognition by reading the underlying contracts and accounting analysis to evaluate whether management's analysis determined the appropriate timing of revenue recognition.

/s/ KPMG LLP

We have served as the Company's auditor since 2017.

San Francisco, California
February 16, 2023

AMPLITUDE, INC.
Consolidated Balance Sheets
(In thousands)

	As of December 31, 2022	As of December 31, 2021
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 218,494	\$ 307,445
Marketable securities, current	11,971	—
Accounts receivable, net of allowance for doubtful accounts of \$690 and \$85 as of December 31, 2022 and 2021, respectively	22,716	20,444
Prepaid expenses and other current assets	20,335	19,116
Deferred commissions, current	10,918	8,112
Total current assets	284,434	355,117
Marketable securities, noncurrent	71,217	—
Property and equipment, net	9,408	4,832
Intangible assets, net	2,022	3,554
Goodwill	4,073	4,073
Restricted cash, noncurrent	855	850
Deferred commissions, noncurrent	25,799	20,573
Operating lease right-of-use assets	9,593	—
Other noncurrent assets	6,354	11,389
Total assets	<u>\$ 413,755</u>	<u>\$ 400,388</u>
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 490	\$ 3,363
Accrued expenses	18,699	17,936
Deferred revenue	89,993	69,294
Total current liabilities	109,182	90,593
Operating lease liabilities, noncurrent	7,093	—
Noncurrent liabilities	2,511	3,247
Total liabilities	118,786	93,840
Commitments and contingencies (Note 9)		
Stockholders' equity:		
Preferred stock, \$0.00001 par value per share; 20,000 shares authorized as of December 31, 2022 and 2021; zero shares issued and outstanding as of December 31, 2022 and 2021	—	—
Class A common stock, \$0.00001 par value per share; 600,000 shares authorized as of December 31, 2022 and 2021; 76,351 and 58,725 shares issued and outstanding as of December 31, 2022 and 2021, respectively	1	1
Class B common stock, \$0.00001 par value per share; 600,000 shares authorized as of December 31, 2022 and 2021; 37,848 and 51,151 shares issued and outstanding as of December 31, 2022 and 2021, respectively	—	—
Additional paid-in capital	568,889	486,354
Accumulated other comprehensive loss	(754)	—
Accumulated deficit	(273,167)	(179,807)
Total stockholders' equity	294,969	306,548
Total liabilities and stockholders' equity	<u>\$ 413,755</u>	<u>\$ 400,388</u>

See accompanying notes to consolidated financial statements.

AMPLITUDE, INC.
Consolidated Statements of Operations and Comprehensive Loss
(In thousands, except per share amounts)

	<u>Year Ended December 31, 2022</u>	<u>Year Ended December 31, 2021</u>	<u>Year Ended December 31, 2020</u>
Revenue	\$ 238,067	\$ 167,261	\$ 102,464
Cost of revenue	70,442	51,764	30,483
Gross profit	<u>167,625</u>	<u>115,497</u>	<u>71,981</u>
Operating expenses:			
Research and development	80,589	48,251	26,098
Sales and marketing	129,962	86,025	51,819
General and administrative	53,636	55,370	18,067
Total operating expenses	<u>264,187</u>	<u>189,646</u>	<u>95,984</u>
Other income, net	3,981	195	269
Loss before provision for income taxes	(92,581)	(73,954)	(23,734)
Provision for income taxes	796	1,029	833
Net loss	<u>\$ (93,377)</u>	<u>\$ (74,983)</u>	<u>\$ (24,567)</u>
Net loss per share attributable to Class A and Class B common stockholders:			
Basic and diluted	<u>\$ (0.84)</u>	<u>\$ (1.46)</u>	<u>\$ (0.98)</u>
Weighted-average shares used in computing net loss per share attributable to Class A and Class B common stockholders:			
Basic and diluted	<u>111,437</u>	<u>51,360</u>	<u>25,060</u>
Other comprehensive loss			
Net unrealized losses on marketable securities	\$ (754)	\$ —	\$ —
Comprehensive loss	<u>\$ (94,131)</u>	<u>\$ (74,983)</u>	<u>\$ (24,567)</u>

See accompanying notes to consolidated financial statements.

AMPLITUDE, INC.
Consolidated Statements of Redeemable Convertible Preferred Stock and Stockholders' Equity (Deficit)
(In thousands)

	Redeemable convertible preferred stock		Class A and Class B common stock		Additional paid-in capital	Accumulated other comprehensive loss	Accumulated deficit	Total stockholders' equity (deficit)
	Shares	Amount	Shares	Amount				
Balance at December 31, 2019	56,480	\$ 137,991	24,646	\$ —	\$ 17,378	\$ —	\$ (80,257)	\$ (62,879)
Issuance of redeemable convertible preferred stock, net of issuance costs of \$169	5,237	49,820	—	—	—	—	—	—
Stock-based compensation expense	—	—	—	—	16,553	—	—	16,553
Exercise of stock options	—	—	3,648	—	3,637	—	—	3,637
Vesting of early exercised stock options	—	—	—	—	136	—	—	136
Donation of common stock and repurchase of unvested stock options	—	—	(370)	—	—	—	—	—
Net loss	—	—	—	—	—	—	(24,567)	(24,567)
Balance at December 31, 2020	61,717	\$ 187,811	27,924	\$ —	\$ 37,704	\$ —	\$ (104,824)	\$ (67,120)
Stock-based compensation expense	—	—	—	—	34,773	—	—	34,773
Exercise of stock options	—	—	10,301	—	16,982	—	—	16,982
Issuance of common stock in connection with an acquisition	—	—	1,070	—	7,402	—	—	7,402
Issuance of redeemable convertible preferred stock, net of issuance costs of \$198	6,247	199,802	—	—	—	—	—	—
Conversion of redeemable convertible preferred stock to common stock upon Direct Listing	(67,964)	(387,613)	67,964	1	387,612	—	—	387,613
Vesting of restricted stock units	—	—	2,617	—	—	—	—	—
Vesting of early exercised stock options	—	—	—	—	1,881	—	—	1,881
Net loss	—	—	—	—	—	—	(74,983)	(74,983)
Balance at December 31, 2021	—	\$ —	109,876	\$ 1	\$ 486,354	\$ —	\$ (179,807)	\$ 306,548
Stock-based compensation expense	—	—	—	—	68,576	—	—	68,576
Exercise of stock options	—	—	2,499	—	6,899	—	—	6,899
Vesting of early exercised stock options	—	—	—	—	2,323	—	—	2,323
Vesting of restricted stock units	—	—	1,482	—	—	—	—	—
Issuance of common stock under employee stock purchase plan	—	—	350	—	4,738	—	—	4,738
Donation of common stock and repurchase of unvested stock options	—	—	(8)	—	(1)	—	—	(1)
Cumulative impact of Topic 842 adoption	—	—	—	—	—	—	17	17
Net loss	—	—	—	—	—	—	(93,377)	(93,377)
Other comprehensive loss, net	—	—	—	—	—	(754)	—	(754)
Balance at December 31, 2022	—	\$ —	114,199	\$ 1	\$ 568,889	\$ (754)	\$ (273,167)	\$ 294,969

See accompanying notes to consolidated financial statements.

AMPLITUDE, INC.
Consolidated Statements of Cash Flows
(In thousands)

	Year Ended December 31,		
	2022	2021	2020
Cash flows from operating activities:			
Net loss	\$ (93,377)	\$ (74,983)	\$ (24,567)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	4,662	3,093	1,690
Stock-based compensation expense	67,223	34,394	16,553
Other	42	1,802	674
Non-cash operating lease costs	3,731	—	—
Changes in operating assets and liabilities:			
Accounts receivable	(2,427)	(3,033)	(5,561)
Prepaid expenses and other current assets	(1,014)	(12,222)	(1,469)
Deferred commissions	(8,032)	(9,245)	(7,180)
Other noncurrent assets	5,036	(4,491)	(5,719)
Accounts payable	(2,884)	(1,054)	2,414
Accrued expenses	4,574	5,556	1,726
Deferred revenue	20,698	28,470	11,047
Operating lease liabilities	(3,616)	—	—
Net cash used in operating activities	<u>(5,384)</u>	<u>(31,713)</u>	<u>(10,392)</u>
Cash flows from investing activities:			
Purchases of marketable securities	(83,190)	—	—
Purchase of property and equipment	(3,632)	(1,529)	(984)
Capitalization of internal-use software costs	(2,177)	(1,693)	(1,224)
Cash paid for acquisitions, net of cash acquired	(394)	1,724	(3,700)
Net cash used in investing activities	<u>(89,393)</u>	<u>(1,498)</u>	<u>(5,908)</u>
Cash flows from financing activities:			
Proceeds from the exercise of stock options	6,910	21,783	4,427
Proceeds from the issuance of redeemable convertible preferred stock, net	—	199,802	49,820
Cash received for tax withholding obligations on equity award settlements	17,992	145,481	1,299
Cash paid for tax withholding obligations on equity award settlements	(19,056)	(144,420)	(1,299)
Repurchase of unvested stock options	(15)	(3)	(2)
Net cash provided by financing activities	<u>5,831</u>	<u>222,643</u>	<u>54,245</u>
Net increase (decrease) in cash, cash equivalents, and restricted cash	<u>(88,946)</u>	<u>189,432</u>	<u>37,945</u>
Cash, cash equivalents, and restricted cash at beginning of period	308,295	118,863	80,918
Cash, cash equivalents, and restricted cash at end of period	<u>\$ 219,349</u>	<u>\$ 308,295</u>	<u>\$ 118,863</u>
Supplemental disclosure of cash flow information:			
Cash paid for income taxes	\$ 424	\$ 182	\$ 221
Non-cash investing and financing activities:			
Vesting of early exercised options	\$ 2,323	\$ 1,881	\$ 136
Purchases of property and equipment included in liabilities	\$ 11	\$ —	\$ —
Stock-based compensation capitalized as internal-use software costs	\$ 1,353	\$ 379	\$ —

See accompanying notes to consolidated financial statements.

AMPLITUDE, INC.
Notes to Consolidated Financial Statements

(1) Summary of Business and Significant Accounting Policies

Description of Business

Amplitude, Inc. (the “Company”) was incorporated in the state of Delaware in 2011 and is headquartered in San Francisco, California. The Company provides a Digital Analytics Platform that helps companies analyze their customer behavior within digital products. The Company delivers its application over the Internet as a subscription service using a software-as-a-service (“SaaS”) model. The Company’s arrangements with customers do not provide the customer with the right to take possession of the software supporting the cloud-based application service at any time. The Company also offers customer support related to initial implementation setup, ongoing support services, and application training.

Segment Information

The Company has a single operating and reportable segment. The Company’s chief operating decision maker is its Chief Executive Officer, who reviews financial information presented on a consolidated basis for purposes of making operating decisions, assessing financial performance, and allocating resources. Long-lived assets outside of the United States are immaterial. For information regarding the Company’s revenue by geographic area, see the Disaggregation of Revenue section below.

Basis of Presentation and Principles of Consolidation

The consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles (“U.S. GAAP” or “GAAP”) and include the accounts of Amplitude, Inc. and its wholly owned subsidiaries. All intercompany balances and transactions have been eliminated in consolidation.

Foreign Currency

The reporting currency of the Company is the United States dollar. The functional currency of the Company’s foreign subsidiaries is also the United States dollar. Foreign currency transaction gains and losses are recognized in “Other income, net” in the consolidated statements of operations and comprehensive loss, and have not been material for any of the periods presented.

Reclassification

Certain amounts in the prior period financial statements have been reclassified to conform to the presentation of the current period consolidated financial statements.

Direct Listing

On September 21, 2021, the Company’s registration statement related to the Direct Listing (the “Registration Statement”) was declared effective by the SEC, and on September 28, 2021, the Company’s Class A common stock commenced trading. The Company incurred fees related to financial advisory service, audit, and legal expenses in connection with the Direct Listing and recorded general and administrative expenses of \$18.2 million for the year ended December 31, 2021.

Prior to the Direct Listing, on August 30, 2021, an amended and restated certificate of incorporation of the Company was filed with the Secretary of State of the State of Delaware, which resulted in the creation of Class A common stock and Class B common stock. All existing shares of common stock issued and outstanding were reclassified into shares of Class B common stock.

Upon the effectiveness of the Registration Statement, all 68.0 million outstanding shares of redeemable convertible preferred stock were converted into an equivalent number of shares of Class B common stock.

On September 21, 2021, an amended and restated certificate of incorporation of the Company was filed with the Secretary of State of the State of Delaware, authorizing an aggregate of 1,220,000,000 shares of capital stock of the Company, including 600,000,000 shares of Class A common stock, 600,000,000 shares of Class B common stock, and 20,000,000 shares of preferred stock.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. These estimates are based on information available as of the date of the financial statements and may involve subjective or significant judgment by the Company; therefore, actual results could differ from the Company's estimates. Items subject to such estimates and assumptions include, but are not limited to the:

- expected period of benefit for deferred commissions;
- useful lives of long-lived assets;
- valuation of the Company's common stock and stock-based awards for periods prior to the direct listing of the Company's Class A common stock on the Nasdaq Capital Market (the "Direct Listing");
- valuation of goodwill and intangible assets;
- the recognition, measurement, and valuation of deferred tax assets and income tax uncertainties; and
- incremental borrowing rate used for operating leases.

Risks and Uncertainties

The COVID-19 pandemic had an adverse effect on the global economy and the lasting effects of the pandemic continue to be unknown. Although pandemic-related trends have normalized for the Company, the extent to which COVID-19 may continue to impact the Company's financial condition, results of operations, or liquidity continues to remain uncertain, and as of the date of issuance of these financial statements, the Company is not aware of any specific event or circumstance that would require an update to its estimates or judgments or an adjustment to the carrying value of the Company's assets or liabilities. These estimates may change, as new events occur and additional information is obtained, which will be recognized in the consolidated financial statements as soon as they become known. Actual results could differ from those estimates, and any such differences may be material to the Company's financial statements.

Revenue Recognition

The Company derives revenue primarily from sales of subscription services. Revenue is recognized when, or as, the related performance obligation is satisfied by transferring the control of the promised service to a customer. The amount of revenue recognized reflects the consideration that the Company expects to be entitled to receive in exchange for these services.

To achieve the core principle of the revenue standard, the Company applies the following steps:

(i) Identification of the contract, or contracts, with the customer

The Company considers the terms and conditions of the contract in identifying the contracts. The Company determines a contract with a customer to exist when the contract is approved, each party's rights regarding the services to be transferred can be identified, the payment terms for the services can be identified, it has been determined the customer has the ability and intent to pay, and the contract has commercial substance. At contract inception, the Company will evaluate whether two or more contracts should be combined and accounted for as a single contract and whether the combined or single contract includes more than one performance obligation. The Company applies judgment in determining the customer's ability and intent to pay, which is based on a variety of factors, including the customer's historical payment experience or, in the case of a new customer, credit, and financial information pertaining to the customer.

(ii) Identification of the performance obligations in the contract

Performance obligations promised in a contract are identified based on the services that will be transferred to the customer that are both capable of being distinct, whereby the customer can benefit from the service either on its own or together with other resources that are readily available from third parties or from the Company and are distinct in the context of the contract, whereby the transfer of the services and the products is separately identifiable from other promises in the contract. The Company's performance obligations consist of (1) core subscription services and (2) professional and other services.

(iii) *Determination of the transaction price*

The transaction price is determined based on the consideration to which the Company expects to be entitled in exchange for transferring services to the customer. The transaction price includes SaaS subscription fees based on the contracted usage as well as variable consideration associated with overage fees on exceeded volume limits. Variable consideration is included in the transaction price if, in the Company's judgment, it is probable that a significant future reversal of cumulative revenue under the contract will not occur. None of the Company's contracts contain a significant financing component.

(iv) *Allocation of the transaction price to the performance obligations in the contract*

Contracts that contain multiple performance obligations require an allocation of the transaction price to each performance obligation based on each performance obligation's relative standalone selling price ("SSP"). Contracts typically have one performance obligation of providing access to the core subscription service. On occasion, contracts include professional services to customers, which are separate performance obligations. Professional services revenue has historically not been significant.

(v) *Recognition of the revenue when, or as, a performance obligation is satisfied*

Revenue is recognized at the time the related performance obligation is satisfied by transferring the control of the promised service to a customer. For subscription services, revenue is recognized as the customer is given access to the core subscription service, in an amount that reflects the consideration that the Company expects to receive in exchange for access to the services. With respect to professional services, the Company recognizes revenue as services are delivered. The Company generates all its revenue from contracts with customers.

Subscription revenue

The Company generates revenue from subscription services including SaaS subscriptions and customer support services subject to contractual subscription terms. SaaS subscriptions enable customers to access and send event volume data to the Company's cloud-based platform. Subscription arrangements with customers do not provide the customer with the right to take possession of the Company's software at any time. Instead, customers are granted continuous access to the platform over the contractual period. A time-elapsed method is used to measure progress because the Company's obligation is to provide continuous service over the contractual period and control is transferred evenly over the contractual period. Accordingly, the fixed consideration related to subscription revenue is recognized ratably over the contract term beginning on the date access to the subscription product is provisioned. The typical subscription term is 12 months with various payment terms ranging from monthly to annual up-front payments. Most contracts are non-cancellable over the contractual term and are subject to standard terms and conditions; however, certain contracts contain nonstandard terms that may impact the timing of revenue recognition. Some customers have the option to purchase additional subscription services at a stated price. These options are evaluated on a case-by-case basis but generally do not provide a material right as they do not provide a discount to the customer that is incremental to the range of discounts typically given for the same services that are sold to a similar class of customers, even when the stand-alone selling price of the services subject to the option is highly variable.

Remaining performance obligations

The Company's contracts with customers generally include one combined performance obligation, its core subscription offering, which is a series of distinct services transferred to the customer ratably over the respective obligation's term. Other performance obligations that may be identified in contracts include professional services. As of December 31, 2022, the unrecognized transaction price related to remaining performance obligations was \$248.2 million.

The Company's remaining performance obligations as of December 31, 2022 are expected to be recognized as follows (in thousands):

	As of December 31, 2022
Less than or equal to 12 months	\$ 190,595
Greater than 12 months	57,581
Total remaining performance obligations	<u>\$ 248,176</u>

Disaggregation of Revenue

The following table shows the Company's disaggregation of revenue by geographic areas, as determined based on the billing address of its customers (in thousands):

	Years Ended December 31,		
	2022	2021	2020
United States	\$ 146,415	\$ 107,244	\$ 65,189
International	91,652	60,017	37,275
Total revenue	<u>\$ 238,067</u>	<u>\$ 167,261</u>	<u>\$ 102,464</u>

Accounts Receivable, Net

Accounts receivable are primarily comprised of cash due from customers and are recorded at the invoiced amount, net of an allowance for doubtful accounts. The Company has a well-established collections history from its customers. Credit is extended to customers based on an evaluation of their financial condition and other factors. In determining the necessary allowance for doubtful accounts, the Company estimates the lifetime expected credit losses against the existing accounts receivable balance. The Company's estimate is based on certain factors including historical loss rates, current economic conditions, reasonable and supportable forecasts, and customer-specific circumstances. The Company maintained an allowance of \$0.7 million and \$0.1 million for doubtful accounts as of December 31, 2022 and 2021, respectively. The movements in the allowance for doubtful accounts were not material for any of the periods presented. The Company does not have any off-balance-sheet credit exposure related to its customers.

Concentration of Risk and Significant Customers

Financial instruments that subject the Company to concentrations of credit risk consist primarily of cash, cash equivalents, restricted cash, marketable securities, and accounts receivable. Although the Company deposits its cash with high-quality, credit-rated financial institutions, the deposits, at times, may exceed federally insured limits. The Company has not experienced any losses on its deposits of cash and cash equivalents.

No customer accounted for 10% or more of total revenue for the years ended December 31, 2022, 2021, and 2020. As of the year ended December 31, 2022, no customers represented 10% or more of accounts receivable. As of the year ended December 31, 2021, one customer represented 10% of accounts receivable.

Deferred Revenue

Deferred revenue consists of billings of payments received in advance of revenue recognition and is recognized when, or as, performance obligations are satisfied. The Company generally invoices its customers annually or in semi-annual, quarterly, or monthly installments. Accordingly, the deferred revenue balance does not represent the total contract value of annual non-cancellable subscription agreements. The amount of revenue recognized in the years ended December 31, 2022 and 2021 that was included in deferred revenue at the beginning of the period was \$68.8 million and \$40.7 million, respectively.

Deferred Commissions

The Company capitalizes sales commissions that are recoverable and incremental due to the acquisition of customer contracts. The Company determines whether costs should be deferred based on its sales compensation plans, if the commissions are in fact incremental and would not have occurred absent the customer contract.

Commissions paid upon the initial acquisition of a contract are deferred and then amortized on a straight-line basis over a period of benefit, determined to be five years. The period of benefit is estimated by considering factors such as the expected life of our subscription contracts, historical customer attrition rates, technological life of our platform, as well as other factors. Sales commissions for renewal of a subscription contract are not considered commensurate with the commissions paid for the acquisition of the initial subscription contract given the substantive difference in commission rates between new and renewal contracts. The Company determines the period of benefit for renewal subscription contracts by considering the contractual term for renewal contracts.

Amounts anticipated to be recognized within 12 months of the balance sheet date are recorded as deferred commissions, current, with the remaining portion recorded as deferred commissions, noncurrent, in the consolidated balance sheets. Amortization of deferred commissions is included in sales and marketing expense in the consolidated statement of operations and comprehensive loss. The Company periodically reviews these deferred commissions to determine whether events or changes in circumstances have occurred that could impact recoverability or the period of benefit. There were no impairment losses recorded during the periods presented.

The following table represents a rollforward of the Company's deferred commissions as of December 31, 2022 and 2021 (in thousands):

	Years Ended December 31,	
	2022	2021
Beginning balance	\$ 28,685	\$ 19,440
Additions to deferred commissions	17,740	16,077
Amortization of deferred commissions	(9,708)	(6,832)
Ending balance	36,717	28,685
Deferred commissions, current portion	10,918	8,112
Deferred commissions, net of current portion	25,799	20,573
Total deferred commissions	<u>\$ 36,717</u>	<u>\$ 28,685</u>

Cost of Revenue

Cost of revenue primarily consists of costs related to third-party hosting costs; employee-related expenses, including salaries, stock-based compensation and benefits for operations and support personnel; software license fees; certain developed technology and acquired developed software amortization; and allocated overhead.

Research and Development Expense

The Company's costs related to research, design, maintenance, and minor enhancements of the Company's platform are expensed as incurred. These costs consist primarily of personnel-related expenses, including stock-based compensation and allocated overhead costs, contractor and consulting fees related to the design, development, testing, and enhancements of the Company's platform, and software, hardware, and cloud infrastructure fees for staging and development related to research and development activities necessary to support growth in the Company's employee base and in the adoption of its platform.

Advertising Costs

The Company expenses all advertising costs as incurred as a component of sales and marketing expenses. Advertising expenses of \$5.8 million, \$4.5 million, and \$2.0 million were incurred during the years ended December 31, 2022, 2021, and 2020, respectively.

Stock-Based Compensation

The Company records stock-based compensation expense for all stock-based awards, including stock options, restricted stock units ("RSUs") and purchase rights issued under the 2021 Employee Stock Purchase Plan ("ESPP"), made to employees, non-employees, and directors based on estimated fair values recognized over the requisite service period. The Company measures and recognizes compensation expense for all stock-based payment awards granted to employees, directors, and non-employees based on the estimated fair values on the date of the grant and vesting criteria. For options, vesting is typically over a four-year period and is contingent upon continued employment on each vesting date. In general, options granted to employees vest 25% after the first year of service and ratably each month over the remaining 36-month period. For RSUs, vesting is typically over a three-year period and is contingent upon continued employment on each vesting date. In general, RSUs granted to employees vest ratably each quarter over the 36-month period.

The Company recognizes compensation expense for service-based stock-based awards as an expense over the employee's or director's requisite service period on a straight-line basis. The Company also had certain options and awards that have performance-based vesting conditions upon certain liquidity events. As a result of the Direct Listing, the liquidity event was met for all outstanding awards with a performance condition and were expensed using the accelerated attribution method. Forfeitures are accounted for as they occur. Stock-based compensation expense is allocated to cost of revenue and operating expenses on the consolidated statements of operations based on where the associated employee's functional department is located.

The fair value of stock options granted under the 2021 Plan and purchase rights issued under the ESPP for purposes of calculating stock-based compensation expense is estimated on the grant date using the Black-Scholes pricing model. The Black-Scholes pricing model requires the Company to make assumptions and judgments about the inputs used in the calculation, including the expected term (weighted-average period of time that the options granted are expected to be outstanding), the volatility of the Company's common stock, risk-free interest rate, and expected dividend yield. The expected term represents the period that the Company's stock-based awards are expected to be outstanding. For stock options considered to be "plain vanilla" options, the Company estimates the expected term based on the simplified method, which is essentially the weighted average of the vesting period and contractual term, as the Company's historical option exercise experience does not provide a reasonable basis upon which to estimate the expected term. The volatility is based on an average of the historical volatilities of the common stock of comparable public companies with characteristics similar to those of the Company. The risk-free rate is based on the U.S. Treasury yield curve in effect at the time of grant for periods corresponding with the expected life of the option or purchase right. The Company's expected dividend yield input is zero as it has not historically paid, nor does it expect in the future to pay, cash dividends on its common stock. Stock-based compensation expense for RSUs granted under the 2021 Plan is measured based on the fair value of the underlying shares on the date of grant.

The fair value of options granted under the 2014 Plan are estimated on the grant date using the Monte Carlo simulation model. The determination of the grant date fair value is affected by the estimated fair value of the Company's common stock as well as additional assumptions regarding a number of other subjective variables. These variables include expected stock price volatility over a contractual term, actual and projected employee stock option exercise behaviors, the risk-free interest rate for a contractual term, and expected dividends. Stock-based compensation expense for RSUs granted under the 2014 Plan is measured based on the fair value of the underlying shares on the date of grant.

Taxes

Income taxes are accounted for under the asset-and-liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax basis and operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income or loss in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. Valuation allowances are established for deferred tax assets to the extent it is more likely than not that the deferred tax assets may not be realized.

The Company evaluates uncertain tax positions taken or expected to be taken in the course of preparing its tax return to determine whether the tax positions are more likely than not of being sustained upon challenge by the applicable tax authority. The Company recognizes the effect of income tax positions only if those positions are more likely than not of being sustained. Recognized income tax positions are measured at the largest amount that is greater than 50% likely of being realized. Changes in recognition or measurement are reflected in the period in which the change in judgment occurs.

Cash, Cash Equivalents, and Restricted Cash

The Company considers all highly liquid investments with a maturity of three months or less when purchased to be cash equivalents. Cash and cash equivalents are stated at fair value. Restricted cash represents cash held to collateralize lease obligations related to the Company's property leases. As of December 31, 2022 and 2021, \$0.9 million of restricted cash is recorded as noncurrent assets. The following table represents the Company's cash, cash equivalents, and restricted cash at each period end (in thousands):

	As of December 31,	
	2022	2021
Cash and cash equivalents	\$ 218,494	\$ 307,445
Restricted cash, noncurrent	855	850
Total cash, cash equivalents, and restricted cash	<u>\$ 219,349</u>	<u>\$ 308,295</u>

Investments in Marketable Securities

Investments in marketable securities consist of commercial paper, corporate notes, and bonds, as well as U.S. Treasury and government agency securities. Management determines the appropriate classification of investments at the time of purchase and reevaluates such determination at each balance sheet date. Marketable securities are classified as available-for-sale and are carried at fair value in the consolidated balance sheets and are classified as short-term or long-term based on their remaining contractual maturities.

The Company evaluates its investments with unrealized loss positions at the individual security level to determine whether the unrealized loss was related to credit or noncredit factors. The Company considers whether a credit loss exists based on the extent of the unrealized loss position, any adverse conditions specifically related to the security or the issuer's operating environment, pay structure of the security, the issuer's payment history and any changes in the issuer's credit rating. Estimated credit losses are determined using a discounted cash flow model and recorded as an allowance, with changes in expected credit losses on the Company's investments recorded in "Other income, net" in the consolidated statements of operations and comprehensive loss. Unrealized gains and losses related to noncredit factors are reflected in "Accumulated other comprehensive loss" on the consolidated balance sheets.

Fair Value Measurements

The Company determines fair value based upon the exit price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants, as determined by either the principal market or the most advantageous market. Inputs used in the valuation techniques to derive fair values are classified based on a three-level hierarchy. These levels are:

Level 1 – Unadjusted quoted prices in active markets for identical assets or liabilities that are accessible at the measurement date for assets or liabilities; the fair value hierarchy gives the highest priority to Level 1 inputs.

Level 2 – Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities, quoted prices in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3 – Unobservable inputs for the asset or liability used to measure fair value to the extent that observable inputs are not available, thereby allowing for situations in which there is little, if any, market activity for the asset or liability at the measurement date; the fair value hierarchy gives the lowest priority to Level 3 inputs.

Observable inputs are based on market data obtained from independent sources. The fair value of cash, cash equivalents, restricted cash, accounts receivable, accounts payable, and accrued liabilities approximated their carrying values as of December 31, 2022 and 2021 due to their short-term nature. The fair values of all of these instruments are categorized as Level 1 in the fair value hierarchy. The fair value of the Company's marketable securities as categorized by the fair value level hierarchy is detailed in Note 3.

Business Combinations

The Company applies a screen test to evaluate if substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar identifiable assets to determine whether a transaction is accounted for as an asset acquisition or business combination. When the Company acquires a business, the purchase consideration is allocated to the tangible assets acquired, liabilities assumed, and intangible assets acquired based on their estimated respective fair value based on the acquisition method of accounting. The excess of the fair value of purchase consideration over the values of these identifiable assets and liabilities is recorded as goodwill. When determining the fair value of assets acquired and liabilities assumed, management makes significant estimates and assumptions, particularly to acquired intangible assets. These assumptions include, but are not limited to, reproduction costs and appropriate discount rates. Management's estimates of fair value are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable and, as a result, actual results may differ from estimates. Acquisition costs, such as legal and consulting fees, are expensed as incurred. During the measurement period, the Company may record adjustments to the assets acquired and liabilities assumed, with the corresponding offset to goodwill. Upon the conclusion of the measurement period, any subsequent adjustments are recorded in the consolidated statement of operations and comprehensive loss.

Goodwill and Other Acquired Intangible Assets

Goodwill represents the excess of the purchase price over the fair value of net assets acquired in connection with business combinations accounted for using the acquisition method of accounting. The Company has one reporting unit and performs testing of goodwill in the fourth quarter of each year, or as events occur or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying amount. These triggering events that may indicate impairment include, but are not limited to, a significant adverse change in customer demand or business climate that could affect the value of goodwill or a significant decrease in expected cash flows. The Company's test for goodwill impairment starts with a qualitative assessment to determine whether it is necessary to perform the quantitative goodwill impairment test. If the Company determines, based on the qualitative factors, that the fair value of the reporting unit is more likely than not less than the carrying amount, then a quantitative goodwill impairment test is required. There were no impairments of goodwill recorded for the years ended December 31, 2022, 2021, and 2020. There were no other changes in goodwill other than additions from acquisitions during the year ended December 31, 2021 as detailed in Note 4.

Intangible assets mainly consist of developed technology resulting from the Company's acquisitions. Acquired intangible assets are recorded at cost, net of accumulated amortization. Intangible assets are amortized on a straight-line basis over their estimated useful lives, which was determined to be three years for all acquired intangibles. For developed technology, amortization costs were included within cost of revenue in the consolidated statements of operations upon the related product release date. Long-lived assets, including intangible assets, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of the asset may not be recoverable. There was no impairment of intangible assets recorded for the years ended December 31, 2022, 2021, and 2020.

Property and Equipment, Net

Property and equipment are stated at cost less accumulated depreciation. Depreciation is calculated on a straight-line basis over the estimated useful lives of those assets, as follows:

Property	Useful Life
Office equipment	3 years
Furniture and fixtures	3 years
Leasehold improvements	Shorter of remaining lease term or 5 years
Software including internal-use software	3 years

Maintenance and repairs are charged to expense as incurred and improvements are capitalized. When assets are retired or otherwise disposed of, the cost and accumulated depreciation is removed from the accounts and any resulting gain or loss is reflected in the statements of operations and comprehensive loss for the period realized.

Operating Leases

The Company determines if an arrangement is, or contains, a lease at inception. Leases arise from contractual obligations that convey the right to control the use of identified property, plant or equipment for a period of time in exchange for consideration. The Company determines whether an arrangement is or contains a lease at inception, based on whether there is an identified asset and whether the Company controls the use of the identified asset throughout the period of use. At lease commencement date, the Company determines lease classification between finance and operating, allocates the consideration to the lease and non-lease components and recognizes a right-of-use ("ROU") asset and corresponding lease liability for each lease component. ROU assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent the Company's obligation to make lease payments based on the lease contracts.

Operating lease ROU assets and liabilities were recognized at adoption date or lease commencement date, if the commencement date was after January 1, 2022, based on the present value of lease payments over the remaining lease term. The Company's lease contracts do not provide an implicit rate, as such the Company used its incremental borrowing rate based on the information available at adoption date or lease commencement date, if the commencement date was after January 1, 2022, in determining the present value of lease payments. The operating lease ROU assets also include any lease payments made to the lessors at or before the lease commencement date, and excludes lease incentives. The lease terms may include options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option.

The lease liability is initially measured as the present value of the remaining lease payments over the lease term. The discount rate used to determine the present value is the Company's incremental borrowing rate unless the interest rate implicit in the lease is readily determinable. The Company estimates the incremental borrowing rate based on the information available at lease

commencement date for borrowings with a similar term. The ROU asset is initially measured as the present value of the lease payments, adjusted for initial direct costs, prepaid lease payments to lessors and lease incentives. The operating lease right-of-use assets and liabilities recognized at January 1, 2022, the adoption date, were based on the present value of lease payments over the remaining lease term as of that date, using the incremental borrowing rate as of that date.

The Company elected the practical expedients to not recognize right-of-use assets and liabilities for leases with a term of less than twelve months and to not separate non-lease components from the associated lease components for the Company's office leases and certain other asset classes. The total consideration includes fixed payments and contractual escalation provisions. The Company is responsible for maintenance, insurance, property taxes and other variable payments, which are expensed as incurred. The Company's leases include options to renew or terminate. The Company includes the option to renew or terminate in the determination of the lease term when the option is deemed to be reasonably certain that the Company will exercise that option. The Company accounts for changes in the expected lease term as a modification of the original contract.

Operating leases are classified in "Operating lease right-of-use assets" and "Operating lease liabilities, noncurrent" on the Company's consolidated balance sheets. The current balance of the operating lease liabilities is included within "Accrued expenses" on the Company's consolidated balance sheets. Operating lease expense is recognized on a straight-line basis over the expected lease term and included in "Operating expenses" in the Company's consolidated statements of operations and comprehensive loss.

Capitalized Internal-Use Software Costs

The Company capitalizes development costs related to its platform and certain other projects for internal use. The Company considered the guidance set forth in Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") Subtopic 350-40-15, *Accounting for the Cost of Computer Software Developed or Obtained for Internal Use*, which requires companies to capitalize qualifying computer software costs that are incurred during the application development stage, and then amortize them over the software's estimated useful life. Costs related to preliminary project activities and post-implementation activities are expensed as incurred. Capitalized internal-use software costs are included in "Property and equipment, net" on our consolidated balance sheets and are amortized on a straight-line basis over its estimated useful life into cost of revenue within the consolidated statements of operation. All software development costs prior to capitalization have been recorded in research and development expense in the consolidated statements of operations. There was no impairment to capitalized internal-use software costs during the years ended December 31, 2022, 2021, and 2020.

Impairment of Long-Lived Assets

The Company evaluates long-lived assets or asset groups for impairment whenever events indicate that the carrying value of an asset or asset group may not be recoverable based on expected future cash flows attributable to that asset or asset group. Recoverability of assets held and used is measured by comparison of the carrying amount of an asset or an asset group to estimated undiscounted future net cash flows expected to be generated by the asset or asset group. If the carrying amount of an asset or asset group exceeds estimated undiscounted future cash flows, then an impairment charge would be recognized based on the excess of the carrying amount of the asset or asset group over its fair value. No impairment loss on long-lived assets was recognized in the years ended December 31, 2022, 2021, and 2020.

Net Loss Per Share

Basic and diluted net loss per share attributable to common stockholders is computed in conformity with the two-class method required for participating securities. Prior to the automatic conversion of all of its redeemable convertible preferred stock outstanding into Class B common stock concurrent with the Direct Listing, the Company considered all series of its redeemable convertible preferred stock to be participating securities as the holders of such stock have the right to receive nonforfeitable dividends on a ratable basis in the event that a dividend is paid on common stock. Under the two-class method, the net loss attributable to common stockholders is not allocated to the redeemable convertible preferred stock as the preferred stockholders do not have a contractual obligation to share in the Company's losses.

Basic net loss per share is computed by dividing net loss attributable to common stockholders by the weighted-average number of shares of common stock outstanding during the period. Diluted net loss per share is computed by giving effect to all potentially dilutive common stock equivalents to the extent they are dilutive. For purposes of this calculation, redeemable convertible preferred stock, stock options, early exercised stock options, RSUs, ESPP purchase rights and common stock warrants have been excluded from the calculation of diluted net loss per share attributable to common stockholders as their effect is anti-dilutive for all periods presented.

Indemnifications

The Company delivers its applications over the internet as a subscription service using a SaaS model. Each subscription is subject to the terms of the contractual arrangement with the customer and often includes certain provisions for holding the customer harmless against and indemnifying the customer from costs, damages, losses, liabilities, and expenses arising from claims that the Company's software infringes upon a copyright, trademark, or other trade secret rights, and third-party claims arising from the Company's breach of the contract. Customers also indemnify the Company for claims relating their improper use of the service or intellectual property claims originating from customer actions or content.

The Company has not incurred any expense in defense or reimbursement of any of its customers for losses related to indemnification provisions, and no material claims against the Company are outstanding as of December 31, 2022, 2021, and 2020. The Company's exposure under these indemnification provisions is often capped at a fixed amount in many customer agreements and uncapped in others. Due primarily to the lack of history of prior indemnification claims and the unique facts and circumstances involved in each particular contractual arrangement, the Company has determined that potential costs related to indemnification are not probable or estimable and, as such, has not recorded a reserve for the years ended December 31, 2022 and 2021.

In addition, in the ordinary course of business, the Company may provide indemnifications of varying scope and terms to vendors, directors, officers, and other parties with respect to certain matters. The Company has not incurred any material costs as a result of such indemnifications and have not accrued any liabilities related to such obligations in its consolidated financial statements.

Warranties

For certain customers, the Company provides a performance warranty for accessibility to the Company's platform as identified in an order form during the order duration. The Company's software products are generally warranted for certain customers to substantially conform to the specifications set forth in the related customer contract and published documentation. In the event there is a failure of such warranties, the Company generally will correct the problem or provide a reasonable workaround or replacement product. The Company has the standard 30-day cure period for failures that amount to a material breach, and no warranted time frame for nonmaterial failures. If the Company cannot correct or provide a workaround or replacement product for material failures within the cure period, then the customer's remedy is generally limited to termination of the contractual arrangement related to the nonconforming product services with a pro rata refund of the related fees paid. The Company has not incurred significant expense under these service warranties, nor does it expect that any future expense is probable. Accordingly, the Company has determined that potential costs related to warranties are not probable or estimable and, as such, has not recorded a reserve as of December 31, 2022 and 2021.

Recently Adopted Accounting Pronouncements

In February 2016, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) No. 2016-02, *Leases (Topic 842)*, which requires companies to recognize lease liabilities and corresponding right-of-use leased assets on the balance sheets and to disclose key information about leasing arrangements. Qualitative and quantitative disclosures will be enhanced to better understand the amount, timing, and uncertainty of cash flows arising from leases. ASU No. 2016-02 is effective for annual periods beginning after December 15, 2021, with early adoption permitted.

Additionally, in 2018 and 2019, the FASB issued the following Topic 842–related ASUs:

- 2018-01, *Land Easement Practical Expedient for Transition to Topic 842*, which clarifies the applicability of Topic 842 to land easements and provides an optional transition practical expedient for existing land easements;
- 2018-10, *Codification Improvements to Topic 842, Leases*, which makes certain technical corrections to Topic 842;
- 2018-11, *Leases (Topic 842): Targeted Improvements*, which allows companies to adopt Topic 842 without revising comparative period reporting or disclosures and provides an optional practical expedient to lessors to not separate lease and non-lease components of a contract if certain criteria are met; and
- 2019-01, *Leases (Topic 842): Codification Improvements*, which provides guidance for certain lessors on determining the fair value of an underlying asset in a lease and on the cash flow statement presentation of lease payments received; ASU No. 2019-01 also clarifies disclosures required in interim periods after adoption of ASU No. 2016-02 in the year of adoption.

The Company adopted the new standard as of January 1, 2022, and recognized a cumulative-effect adjustment to the opening balance of accumulated deficit as of adoption date. The Company elected the optional transition approach to not apply Topic 842 in the comparative periods presented. The Company elected the relief package of practical expedients to not reassess whether existing contracts contain leases, the lease term and classification for existing leases, and whether existing initial direct costs meet the new definition. The adoption of Topic 842 resulted in the recognition of total right-of-use of \$11.6 million and total lease liabilities of \$13.2 million as of the date of adoption. Additionally, the Company has derecognized \$1.6 million in deferred rent upon adoption of this standard. The adoption of Topic 842 did not have a material impact to the consolidated statements of operations and comprehensive loss or statements of cash flows.

In January 2017, the FASB issued ASU No. 2017-04, *Intangibles—Goodwill and Other (Topic 350)*, which eliminates Step 2 from the goodwill impairment test. Step 2 measures a goodwill impairment loss by comparing the implied fair value of a reporting unit’s goodwill with the carrying amount of that goodwill. Instead, entities will record an impairment charge based on the excess of a reporting unit’s carrying amount over its fair value (i.e., measure the charge based on today’s Step 1). This update is effective for annual and interim impairment tests performed in periods beginning after December 15, 2022. The Company early adopted the standard as of January 1, 2022. The adoption of ASC 350 did not have a material impact to the consolidated financial statements.

On January 1, 2022, the Company adopted ASU No. 2016-13, *Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*, which requires the measurement and recognition of expected credit losses for financial assets held at amortized cost, including accounts receivables. It also eliminates the concept of other-than-temporary impairment and requires credit losses related to available-for-sale debt securities to be recorded through an allowance for credit losses rather than as a reduction in the amortized cost basis of the securities. These changes will result in more timely recognition of credit losses. The adoption of Topic 326 did not have a material impact to the consolidated financial statements.

(2) Balance Sheet Components

The following tables show the Company’s financial statement details as of December 31, 2022 and 2021.

Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets consisted of the following (in thousands):

	As of December 31,	
	2022	2021
Prepaid hosting	\$ 9,759	\$ 9,216
Other prepaid expenses and other assets	10,576	9,900
Total prepaid expense and other current assets	<u>\$ 20,335</u>	<u>\$ 19,116</u>

Property and Equipment, Net

Property and equipment, net consisted of the following (in thousands):

	As of December 31,	
	2022	2021
Office equipment	\$ 4,062	\$ 3,351
Furniture and fixtures	1,533	319
Leasehold improvements	1,012	521
Software	13	12
Internal-use software	6,825	3,296
Total property and equipment	13,445	7,499
Less accumulated depreciation and amortization	(4,037)	(2,667)
Property and equipment, net	<u>\$ 9,408</u>	<u>\$ 4,832</u>

Depreciation and amortization expense related to property and equipment for the years ended December 31, 2022, 2021, and 2020 was \$2.6 million, \$1.4 million, and \$1.0 million, respectively.

The changes in the carrying value of capitalized internal-use software costs for the periods presented below are as follows (in thousands):

	Amount
Balance as of December 31, 2020	\$ 1,121
Capitalization of internal-use software costs	2,072
Amortization of internal-use software costs	(585)
Balance as of December 31, 2021	2,608
Capitalization of internal-use software costs	3,530
Amortization of internal-use software costs	(1,247)
Balance as of December 31, 2022	<u>4,891</u>

Accrued Expenses

Accrued expenses consisted of the following (in thousands):

	As of December 31,	
	2022	2021
Accrued commission	\$ 4,494	\$ 4,708
Accrued payroll and employee related taxes	1,580	2,689
Accrued sales tax	338	932
Liability from early exercised stock options	1,382	3,708
2021 Employee Stock Purchase Plan withholding	1,185	981
Operating lease liabilities, current	3,997	—
Other accrued liabilities	5,723	4,918
Total accrued expenses	<u>\$ 18,699</u>	<u>\$ 17,936</u>

(3) Fair Value Measurements

The following table summarizes, for financial assets measured at fair value, the respective fair value and classification by level of input within the fair value hierarchy (in thousands):

	As of December 31, 2022			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Level 1:				
Cash equivalents⁽¹⁾				
Money market funds	\$ 168,730	\$ —	\$ —	\$ 168,730
Level 2:				
Available-for-sale securities				
U.S. governmental securities	83,942	—	(754)	83,188
Total	\$ 252,672	\$ —	\$ (754)	\$ 251,918

(1) Included in "Cash and cash equivalents" in the Company's consolidated balance sheet as of December 31, 2022, in addition to cash of \$49.8 million.

The Company uses quoted prices in active markets for identical assets to determine the fair value of the Company's Level 1 investments. The fair value of the Company's Level 2 investments is determined using pricing based on quoted market prices or alternative market observable inputs.

The fair value of the Company's available-for-sale securities as of December 31, 2022, by remaining contractual maturities, was as follows (in thousands):

	As of December 31, 2022
Due in one year or less	\$ 11,971
Due in greater than one year	71,217
Total	\$ 83,188

The Company periodically evaluates its investments for expected credit losses. The unrealized losses on the available-for-sale securities were primarily due to unfavorable changes in interest rates subsequent to the initial purchase of these securities. None of the Company's available-for-sale securities have been in a continuous unrealized loss position for twelve months or longer as of December 31, 2022. The Company expects to recover the full carrying value of its available-for-sale securities in an unrealized loss position as it does not intend or anticipate a need to sell these securities prior to recovering the associated unrealized losses. The Company also expects any credit losses would be immaterial based on the high-grade credit rating for each of such available-for-sale securities. As a result, the Company does not consider any portion of the unrealized losses as of December 31, 2022 to represent a credit loss. The Company held no marketable securities as of December 31, 2021.

(4) Acquisitions, Intangible Assets, and Goodwill

Acquisitions

During the year ended December 31, 2021, the Company completed an acquisition of a privately-held company for an aggregate of \$9.5 million, consisting of \$2.1 million of cash and \$7.4 million of equity consideration through the issuance of 0.7 million shares of its common stock. The Company has accounted for this transaction as a business combination. In allocating the aggregate purchase price based on the estimated fair values, the Company recorded \$3.8 million of cash, \$2.85 million as a developed technology intangible asset, and \$0.4 million as a customer related intangible asset, both of which are to be amortized over estimated useful lives of three years. The excess of purchase consideration over the fair value of net assets acquired was recorded as goodwill in the amount of \$3.1 million after measurement period and working capital adjustments. As part of the acquisition, the Company also agreed to retention agreements with key employees in which 0.4 million shares of common stock are restricted and vest over a service period of four years. As of December 31, 2022, total unrecognized stock-based compensation expense related to these restricted shares was \$2.5 million, which is expected to be recognized over the weighted average remaining vesting period of 2.3 years.

The Company believes the goodwill balances associated with these acquisitions represent the synergies expected from expanded market opportunities when integrating the acquired developed technologies with the Company's offerings as well as acquiring an assembled workforce. Related goodwill is deductible for income tax purposes.

Aggregate acquisition-related costs associated with these business combinations were not material for all periods presented and were included in general and administrative expenses in the consolidated statements of operations and comprehensive loss. The results of operations of these business combinations have been included in the Company's consolidated financial statements from the acquisition date. These business combinations did not have a material impact on the Company's consolidated financial statements. Therefore, historical results of operations prior to the acquisition dates and pro forma results of operations have not been presented.

Intangible Assets Other Than Goodwill

Intangible assets, net consisted of the following (in thousands):

	As of December 31, 2022			As of December 31, 2021		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Developed technology	\$ 5,550	\$ (4,153)	\$ 1,397	\$ 5,550	\$ (2,303)	\$ 3,247
Customer related	931	(306)	625	400	(93)	307
Intangible assets, net	<u>\$ 6,481</u>	<u>\$ (4,459)</u>	<u>\$ 2,022</u>	<u>\$ 5,950</u>	<u>\$ (2,396)</u>	<u>\$ 3,554</u>

Amortization expense of intangible assets was \$2.1 million, \$1.7 million, and \$0.7 million for the years ended December 31, 2022, 2021, and 2020, respectively.

As of December 31, 2022, future amortization expense is expected to be as follows (in thousands):

	Amount
2023	\$ 1,414
2024	509
2025	99
2026	—
2027	—
Total	<u>\$ 2,022</u>

(5) Stockholders' Equity (Deficit) and Equity Incentive Plans

Preferred stock

In connection with the Direct Listing, on September 21, 2021, an amended and restated certificate of incorporation of the Company was filed with the Secretary of State of the State of Delaware, which authorized the issuance of 20 million shares of undesignated preferred stock with a par value of \$0.00001 per share and rights and preferences, including voting rights, designated from time to time by the board of directors.

Common Stock

The Company has two classes of common stock: Class A common stock and Class B common stock. The Company's amended and restated certificate of incorporation authorizes the issuance of 600 million shares of Class A common stock and 600 million shares of Class B common stock. The shares of Class A common stock and Class B common stock are identical, except with respect to voting, conversion, and transfer rights. Each share of Class A common stock is entitled to one vote. Each share of Class B common stock is entitled to five votes. Class A and Class B common stock each have a par value of \$0.00001 per share and are referred to as common stock throughout the notes to the consolidated financial statements, unless otherwise noted. Holders of common stock are entitled to receive any dividends whenever funds are legally available and if declared by the board of directors.

Shares of Class B common stock may be converted to Class A common stock at any time at the option of the stockholder. Shares of Class B common stock will also automatically convert into one share of Class A common stock upon any transfer, except for certain permitted transfers described in the Company's amended and restated certificate of incorporation. In addition, each share of Class B common stock held by the Company's three cofounders (or any of such founder's affiliates) will convert automatically into one share of Class A common stock on the earlier of: (i) the death or incapacity of such founder or (ii) the date that is six months following the date on which such founder is no longer an employee or director of the Company (unless such founder has rejoined the Company during such six-month period). Each outstanding share of the Company's Class B common stock will also convert automatically into one share of Class A common stock on the date that is six months following the date on which no founder is an

employee or director of the Company (unless a founder has rejoined the Company during such six-month period). In addition, any transfer by a founder (or such founder's affiliates) to one or more of the other founders (or such founders' affiliates) will not result in the automatic conversion of such shares of Class B common stock to Class A common stock. Once converted into Class A common stock, the Class B common stock may not be reissued.

The Company has reserved shares of its common stock as follows:

	As of December 31, 2022	As of December 31, 2021
2014 Stock Option and Grant Plan and 2021 Incentive Award Plan:		
Equity plan stock options outstanding	16,767,752	21,214,155
RSUs outstanding	9,914,125	1,716,614
Shares available for future issuance	16,774,634	19,005,008
2021 Employee Stock Purchase Plan:		
Shares available for future issuance	3,411,791	2,663,371
Total reserved shares	46,868,302	44,599,148

Equity Incentive Plans

2014 Stock Option and Grant Plan

In December 2014, the Company adopted its 2014 Stock Option and Grant Plan (as amended, the "2014 Plan"), pursuant to which shares of the Company's common stock were reserved for the issuance of stock options (incentive and non-statutory), restricted stock units ("RSUs"), and restricted stock to employees, directors, and consultants under terms and provisions established by the board of directors and approved by the Company's stockholders. The 2014 Plan was terminated in September 2021 in connection with the Direct Listing but continues to govern the terms of outstanding awards that were granted prior to the termination of the 2014 Plan. No further equity awards will be granted under the 2014 Plan. With the establishment of the 2021 Incentive Award Plan (the "2021 Plan") as further discussed below, upon the expiration, forfeiture, cancellation, or reacquisition of any shares of Class A common stock underlying outstanding stock-based awards granted under the 2014 Plan, an equal number of shares of Class A common stock will become available for grant under the 2021 Plan.

2021 Incentive Award Plan

In August 2021, the Company's board of directors adopted, and its stockholders approved, the 2021 Plan, which became effective in connection with the Direct Listing. The 2021 Plan provides for the grant of incentive stock options, nonqualified stock options, stock appreciation rights, restricted stock awards, RSU awards, performance bonus awards, performance stock units, dividend equivalent awards and other forms of equity compensation (collectively, "equity awards"). As of December 31, 2022, a total of 16,774,634 shares of the Company's Class A common stock have been reserved for issuance under the 2021 Plan in addition to (i) the number of shares represented by awards outstanding under the Company's 2014 Plan ("Prior Plan Awards") that become available upon the expiration, forfeiture, cancellation, or reacquisition of any shares of Class A common stock underlying outstanding stock awards granted under the 2014 Plan, and (ii) an annual increase on the first day of each fiscal year beginning in 2022 and ending in 2031, equal to the lesser of (A) 5% of the shares of the Company's common stock outstanding (on an as-converted basis) on the last day of the immediately preceding fiscal year and (B) such smaller number of shares of stock as determined by the Company's board of directors; provided, however, that no more than 88,000,000 shares of stock may be issued upon the exercise of incentive stock options.

Stock Option Awards

Stock options granted under the 2021 Plan and 2014 Plan (the "combined stock plans") generally vest based on continued service over four years. Options issued outside of the combined stock plans were immaterial and therefore not discussed further below.

Option activity under the Company's combined stock plans is set forth below:

	Outstanding stock options	Weighted average exercise price	Weighted average remaining contractual life (years)	Aggregate intrinsic value (in thousands)
Balances as of December 31, 2021	21,214,155	\$ 4.15	8.12	\$ 1,035,039
Granted	858,630	14.84		
Exercised	(2,498,763)	2.77		
Cancelled/forfeited	(2,806,270)	8.42		
Balances as of December 31, 2022 ⁽¹⁾	<u>16,767,752</u>	\$ 4.19	7.19	\$ 132,298
Exercisable as of December 31, 2022 ⁽²⁾	<u>12,822,860</u>	\$ 3.29	6.89	\$ 112,713

(1) As no forfeitures are estimated due to the Company's adoption of ASU No. 2016-09, all options are vested or expected to vest. As of December 31, 2022, no options were outstanding that were subject to a future performance condition

(2) Exercisable shares include vested options as well as unvested shares that can be early exercised

During December 2020, the Company granted 1,756,545 stock options to two executives which contain both a service condition and a performance condition. Based on the terms of the options, the vesting commencement date is defined as the date in which a Form S-1 filed with the SEC becomes effective (a "QPO Event"). In conjunction with the Direct Listing, a QPO Event occurred and therefore the options began to vest 1/24th each month subsequent to September 21, 2021. During fiscal 2022, the Company recognized \$1.5 million in expense related to these awards using the accelerated attribution method. The unrecognized stock-based compensation expense was \$0.3 million and \$1.7 million as of December 31, 2022 and 2021, respectively.

The aggregate intrinsic values of options are calculated as the difference between the exercise price of the options and the market price for shares of the Company's common stock as of each period-end. The total intrinsic value of options exercised for the years ended December 31, 2022, 2021, and 2020 was \$23.3 million, \$519.1 million, and \$15.0 million, respectively.

Stock options granted during the years ended December 31, 2022, 2021, and 2020 had a weighted average grant date fair value of \$8.27, \$6.02, and \$2.27 per share, respectively. With the exception of the performance options detailed above, the fair value is being expensed over the vesting period of the options on a straight-line basis as the services are being provided. The total fair value of shares vested during the years ended December 31, 2022, 2021, and 2020 was \$17.6 million, \$9.7 million, and \$5.1 million, respectively. No tax benefits were realized from options during the periods.

As of December 31, 2022, total unrecognized stock-based compensation expense related to the combined stock plans options was \$21.8 million. This unrecognized expense as of December 31, 2022 is expected to be recognized over the weighted average remaining vesting period of 2.45 years. As of December 31, 2022, the Company had 354,500 shares of non-employee stock options outstanding under the combined stock plans.

The fair value of each option granted to employees under the 2021 Plan is estimated on the grant date using the Black-Scholes pricing model. Based on the nature of the underlying options granted under the 2014 Plan, the fair value of each option granted to employees is estimated on the date of grant using the Monte Carlo simulation model.

The following range of assumptions and data inputs were used in the Black-Scholes option-pricing model to estimate the fair value of the options granted under the 2021 Plan:

	Year Ended December 31, 2022
Fair value of common stock	\$14.62 - \$15.63
Expected dividend yield	—
Risk-free interest rate	3.01% - 3.36%
Expected volatility	55.3% - 55.6%
Expected term (years)	6.0 - 6.3

Determining Fair Value of Stock Options

The fair value of each grant of stock option was determined by the Company using the methods as discussed above and the assumptions discussed below. The determination of each of these inputs is subjective and generally requires a level of judgment.

Expected volatility – The expected stock price volatility assumption was determined by examining the historical volatilities of a group of industry peers over a period equal to the expected life of the options, as we do not have sufficient trading history for our common stock.

Contractual term (Monte Carlo) – The contractual term of stock options is used to model the expected exercise behavior of the option holders with a 10-year exercise period. This method utilizes a Monte Carlo simulation based on historical exercise data as the options are not considered to be plain-vanilla where a simplified method is allowed as certain holders have up until option expiration to exercise regardless of employment status. The Monte Carlo simulation models expected exercise behavior utilizing an estimated stock price at which the holder of the option would choose to exercise an option prior to the end of the stated term. For this assumption, we utilized a value multiple on the strike price of 4.0 times.

Expected term (Black-Scholes) – Expected term represents the period that our stock-based awards are expected to be outstanding. The expected term assumptions are determined based on the vesting terms, exercise terms, and contractual lives of the options.

Expected dividend – The expected dividend assumption was based on our history and expectation that it will not declare dividend payout for the near future.

Risk-free interest rate – The risk-free interest rate is based on the U.S. Treasury zero coupon issues in effect at the time of grant for periods corresponding with the contractual terms.

Fair value of common stock – Prior to the Direct Listing, the fair value of our common stock was determined by our board of directors, which intended all options granted to be exercisable at a price per share not less than the per share fair value of common stock underlying those options on the date of grant. The valuations of our common stock were determined in accordance with the guidelines outlined in the American Institute of Certified Public Accountants Practice Aid, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*. The board of directors considered numerous objective and subjective factors to determine the fair value of our common stock at each meeting in which awards were approved. The factors considered included, but were not limited to:

- (i) the results of contemporaneous independent third-party valuations of our common stock;
- (ii) the prices, rights, preferences, and privileges of our redeemable convertible preferred stock relative to those of its common stock;
- (iii) the lack of marketability of our common stock;
- (iv) actual operating and financial results;
- (v) current business conditions and projections;
- (vi) the likelihood of achieving a liquidity event, such as an initial public offering, direct listing, or sale of our Company, given prevailing market conditions; and
- (vii) precedent transactions involving our shares.

Restricted Stock Units

RSUs granted under the 2021 Plan generally vest based on continued service, typically over a three- to four-year period. RSUs granted pursuant to the 2014 Plan vest according to a service condition as well as a performance condition, through a liquidity event, including (i) a change in control of the Company or (ii) the initial public offering of the Company's equity securities, following which the securities shall be publicly traded, which includes a direct listing. As a result of the Direct Listing, the performance condition for all RSUs granted pursuant to the 2014 Plan has been met. During the years ended December 31, 2022 and 2021, the Company recorded \$46.0 million and \$15.4 million in expense related to RSUs, respectively.

No RSUs were granted during year ended December 31, 2020. Additionally, no stock-based compensation expense was recognized during the year ended December 31, 2020 as the Company evaluated the performance condition being met as not probable as of December 31, 2020.

As of December 31, 2022, total unrecognized stock-based compensation expense related to RSUs was \$168.4 million. This unrecognized expense as of December 31, 2022 is expected to be recognized over the weighted average remaining vesting period of

2.76 years. As of December 31, 2022, the Company had 231,576 shares of non-employee RSUs outstanding under the combined stock plans.

RSU activity for the year ended December 31, 2022 was as follows:

	Restricted stock units	Weighted-average grant date fair value per share
Balance as of December 31, 2021	1,716,614	\$ 38.40
Granted	10,664,063	17.60
Vested	(1,482,082)	23.71
Cancelled/forfeited	(984,470)	29.15
Balance as of December 31, 2022	<u>9,914,125</u>	<u>\$ 19.14</u>

2021 Employee Stock Purchase Plan

In August 2021, the Company's board of directors adopted, and its stockholders approved, the 2021 Employee Stock Purchase Plan (the "ESPP"), which became effective in connection with the Direct Listing. The ESPP authorizes the issuance of shares of Class A common stock pursuant to purchase rights granted to employees. A total of 3,411,791 shares of the Company's Class A common stock have been reserved for future issuance under the ESPP, in addition to any annual automatic evergreen increases in the number of shares of Class A common stock reserved for future issuance under the ESPP. The ESPP offers employees the option to purchase shares through a series of consecutive 12-month offering periods on each May 15th and November 15th (with two six-month purchase periods during each offering period). The price at which Class A common stock is purchased under the ESPP is equal to the lower of (i) 85% of the closing trading price per share of the Company's Class A common stock on the first trading date of an offering period in which a participant is enrolled or (ii) 85% of the closing trading price per share on the purchase date, which will occur on the last trading day of each purchase period, or such other price designated by the administrator.

The initial offering period under the ESPP was longer than 12 months, commencing on September 28, 2021 and ending on November 14, 2022. The first purchase period commenced on September 28, 2021 and ended on May 14, 2022. The ESPP offers a rollover feature pursuant to which, if the fair market value of a share of Class A common stock on the first purchase date is lower than the fair market value on the first trading day of the offering period, the respective offering period will terminate and each participant will be automatically enrolled in the offering period that commences immediately following the purchase date. In accordance with the rollover feature, immediately following the conclusion of the first and second purchase periods on May 14, 2022 and November 14, 2022, respectively, the corresponding offering period was terminated and participants were automatically enrolled in a new 12-month offering period commencing on May 15, 2022 and November 15, 2022 and ending on May 14, 2023 and November 14, 2023, respectively. The impact of the rollover feature did not result in material incremental compensation cost for the year ended December 31, 2022.

The following assumptions were used to calculate the fair value of shares to be granted under the ESPP during the period utilizing the Black-Scholes option-pricing model:

	Year Ended December 31, 2022
Fair value of common stock	\$14.77 - \$17.04
Expected dividend yield	—
Risk-free interest rate	1.54% - 4.63%
Expected volatility	60%
Expected term (years)	0.50 - 1.0

The expected term for the ESPP purchase rights is based on the duration of the offering period. Estimated volatility for ESPP purchase rights is based on the historical volatility of a group of industry peers as sufficient history is not available for our common stock. The risk-free interest rate is based on the U.S. Treasury yield curve in effect at the time the ESPP purchase right was granted at the beginning of the offering period. We have not declared, nor do we expect to declare dividends.

As of December 31, 2022, 350,341 shares have been purchased under the ESPP. During the year ended December 31, 2022, the Company recognized \$5.7 million of stock-based compensation expense related to the ESPP. As of December 31, 2022, total

unrecognized compensation costs related to the ESPP was \$1.9 million, which will be amortized over a weighted average period of 0.87 years.

Stock-based compensation expense, net of actual forfeitures is reflected in the consolidated statement of operations and comprehensive loss (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Cost of revenue	\$ 6,468	\$ 1,951	\$ 590
Research and development	27,855	13,613	5,582
Sales and marketing	17,143	7,871	6,512
General and administrative	15,757	10,959	3,869
Total stock-based compensation expense	<u>\$ 67,223</u>	<u>\$ 34,394</u>	<u>\$ 16,553</u>

During 2021 and 2020, the Company facilitated secondary transactions with select executives in which common stock was sold above fair value. Therefore, the Company has recorded \$1.1 million and \$11.1 million as compensation expense included in the above table in the years ended December 31, 2021 and 2020, respectively. No related expense was recorded in the year ended December 31, 2022.

(6) Employee Benefit Plans

The Company has established a savings and retirement plan for employees that permits participants to make contributions by salary deductions pursuant to Section 401(k) of the Internal Revenue Code. The plan is available to all regular employees on the Company's U.S. payroll. The Company does not currently match employees' contributions.

(7) Income Taxes

Pre-tax book loss has been recorded in the following jurisdictions (in thousands):

	Year Ended December 31,		
	2022	2021	2020
United States	\$ (97,047)	\$ (79,354)	\$ (26,758)
Foreign	4,466	5,400	3,024
Worldwide pre-tax loss	<u>\$ (92,581)</u>	<u>\$ (73,954)</u>	<u>\$ (23,734)</u>

The provision for income taxes consists of the following (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Current:			
Federal	\$ —	\$ —	\$ —
State	86	26	12
Foreign	619	583	353
Total Current	<u>\$ 705</u>	<u>\$ 609</u>	<u>\$ 365</u>
Deferred:			
Federal	\$ —	\$ (320)	\$ —
State	—	(57)	—
Foreign	91	797	468
Total Provision	<u>\$ 796</u>	<u>\$ 1,029</u>	<u>\$ 833</u>

The provision for income taxes differs from the amount computed by applying the federal income tax rate of 21% to pre-tax loss for the years ended December 31, 2022, 2021, and 2020 from operations as a result of the following:

	Year Ended December 31,		
	2022	2021	2020
Statutory federal income tax rate	21.00%	21.00%	21.00%
State income taxes, net of federal tax benefits	4.34	3.88	4.12
Permanent differences	(0.29)	(6.74)	(1.14)
Tax credits	6.49	6.12	14.53
Foreign rate differential	0.25	(0.33)	(0.78)
Stock based compensation	(3.36)	88.87	(11.60)
Other	(0.04)	(0.02)	(1.07)
Valuation allowance	(29.25)	(114.17)	(28.57)
Tax provision	<u>(0.86)%</u>	<u>(1.39)%</u>	<u>(3.51)%</u>

The tax effects of temporary differences that give rise to significant portions of the Company's deferred tax assets and liabilities as of December 31, 2022, 2021, and 2020 related to the following (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Deferred tax assets:			
Net operating loss carryforwards	\$ 107,341	\$ 103,028	\$ 23,493
Credit carryforwards	15,876	9,742	5,199
Stock-based compensation	7,124	3,456	1,061
Accruals and reserves	544	533	326
Operating lease liability	2,806	—	—
Fixed assets	—	—	73
Capitalized research and development costs	14,674	—	—
Intangibles	145	—	168
Accumulated other comprehensive loss	190	—	—
Other	167	44	37
Gross tax assets	148,867	116,803	30,357
Valuation allowance	(139,291)	(110,720)	(26,286)
Realizable deferred tax assets	9,576	6,083	4,071
Deferred tax liabilities:			
Deferred commission costs	\$ (8,962)	\$ (6,881)	\$ (4,727)
Internal use software	—	(643)	(277)
Operating lease right-of-use assets	(2,428)	—	—
Fixed assets	(22)	(1)	—
Intangibles	—	(303)	(14)
Other	—	—	(1)
Gross deferred liabilities	(11,412)	(7,828)	(5,019)
Net deferred tax assets (liabilities)	<u>\$ (1,836)</u>	<u>\$ (1,745)</u>	<u>\$ (948)</u>

Income taxes are accounted for under the asset-and-liability method. Deferred tax assets and liabilities are recognized for future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carryforward. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to the taxable income or loss in the future years in which those temporary differences are expected to be recovered or settled. The effect on the deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. Valuation allowances are established for deferred tax assets to the extent it is more likely than not that the deferred tax assets may not be realizable.

The Company evaluates uncertain tax positions taken or expected to be taken in the course of preparing its tax return to determine whether the tax positions are more likely than not of being sustained upon challenge by the applicable taxing authority. The Company recognizes the effect of income tax positions only if those positions are more likely than not of being sustained. Recognized income tax positions measured at the largest amount that is greater than 50% likely of being realized. Changes in recognition or remeasurement are reflected in the period in which the change in judgment occurs.

In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some portion of all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent on the generation of future taxable income during the periods in which those temporary differences become deductible. Based on the levels of historical taxable income and projections for future taxable income over the period in which temporary differences are deductible, the Company has recorded a valuation allowance for substantially all of its deferred tax assets, except to the extent of deferred tax liabilities, as it is unable to conclude that it is more likely than not that the deferred tax assets in excess of deferred tax liabilities will be realizable.

At December 31, 2022, the Company had approximately \$422.2 million, \$288.0 million, and \$0.6 million of net operating loss carryforwards available to offset future federal, state, and foreign taxable income, respectively. If realized, none of the net operating loss carryforwards will be recognized as a benefit through additional paid-in capital. If not realized, federal carryforward losses of \$25.4 million will expire beginning in 2032 and \$396.8 million of carryforward losses will carryforward indefinitely. State carryforwards will expire beginning 2030. The foreign losses can be carried forward indefinitely.

At December 31, 2022, the Company had tax credit carryforwards of \$9.1 million and \$8.5 million, net of reserves to offset future federal and state tax and \$0.1 million of foreign research tax credit carryforwards. The carryforwards will expire in various amounts for federal purposes beginning 2033. The California R&D credits will not expire but the California competes tax credits will expire beginning 2026. The foreign research tax credits are allowed a carryforward of 20 years and are set to expire in 2042.

Utilization of net operating loss carryforwards and credits may be subject to substantial annual limitation due to ownership change limitations provided by the Internal Revenue Code of 1986, as amended, and similar state provisions. The annual limitations may result in the expiration of the net operating losses before utilization.

As of December 31, 2022, the Company had unrecognized income tax benefits of \$3.6 million. The increase in the Company's unrecognized tax benefit was primarily attributable to current year credit activities. A reconciliation of the beginning and ending amount of unrealized tax benefit (excluding interest and penalties) is as follows (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Beginning balance	\$ 2,253	\$ 1,226	\$ 766
Increases related to tax positions taken during a prior year	1,372	1,027	460
Decreases related to tax positions taken during a prior year	—	—	—
Increases related to tax positions taken during the current year	—	—	—
Ending balance	<u>\$ 3,625</u>	<u>\$ 2,253</u>	<u>\$ 1,226</u>

The total unrecognized tax benefit, if recognized, would not affect the Company's effective tax rate as the tax benefit would increase the deferred tax asset, which is currently offset with a full valuation allowance. The Company does not anticipate that the amount of existing unrecognized tax benefit will significantly increase or decrease within the next 12 months. Accrued interest and penalties related to the unrecognized tax benefits are recorded in income tax expense. No interest, penalties, or tax benefits were recognized during the year ended December 31, 2022.

The Company files U.S. federal, Netherlands, United Kingdom, France, Singapore, Japan, Germany, Canada, India, and Australia income tax returns as well as state income tax returns for various state jurisdictions. Due to the Company's net operating loss carryforwards in the United States, its income tax returns remain subject to federal and state tax authorities for all prior years. There are no tax years under examination by any jurisdiction, except India, at this time. The Company records liabilities related to uncertain tax positions and believes that it has provided adequate reserves for income tax uncertainties in all open tax years.

The Company provides for U.S. federal income taxes on the earnings of foreign subsidiaries unless they are considered permanently reinvested outside of the U.S. As of December 31, 2022, the Company's management is asserting that it is their intent to indefinitely reinvest unremitted foreign earnings for all its foreign entities.

The Tax Cuts and Jobs Act ("TCJA") amended Section 174 to require taxpayers to capitalize costs properly identified as research and experimental expenditures and amortize such costs ratably over a period of either five or fifteen years (beginning with the midpoint of the tax year in which the specified expenditures are paid or incurred), depending on whether the costs were associated with domestic or foreign activity, respectively. The TCJA specified that amendments to Section 174 were applicable to research and experimental costs incurred in taxable years beginning after December 31, 2021 and as such, the Company has adopted the amendment. This amendment did not have a material impact to income taxes in the Company's financial statements for the year ended December 31, 2022.

The Creating Helpful Incentives to Produce Semiconductors and Science Act of 2022 (“CHIPS”) and the Inflation Reduction Act (“IRA”) of 2022 were signed into law by President Biden on August 9, 2022 and August 16, 2022, respectively. These laws introduce new options for monetizing certain credits, a corporate alternative minimum tax, and a stock repurchase excise tax. The Company is currently evaluating the impact of CHIPS and IRA, but at present does not expect that the any of the provisions included in these acts would result in a material impact to the Company's deferred tax assets, liabilities, or income taxes payable.

(8) Operating Leases

The components of lease expense were as follows (in thousands, except years and rate):

	Year Ended December 31, 2022
Operating lease cost	\$ 3,731
Short-term lease cost	796
Total lease cost	<u>\$ 4,527</u>
	As of December 31, 2022
Weighted average remaining term (years)	2.79
Weighted average discount rate	3.13%

Supplemental cash flow information related to operating leases is as follows (in thousands):

	Year Ended December 31, 2022
Right-of-use assets obtained in exchange for new operating lease liabilities	\$ 1,476
Cash paid for operating lease liabilities	\$ 3,616

Future minimum lease payments under non-cancellable operating leases with initial lease terms in excess of one year included in the Company's lease liabilities as of December 31, 2022 are as follows (in thousands):

Year ending December 31:	
2023	\$ 4,062
2024	4,013
2025	3,107
2026 and thereafter	385
Total undiscounted operating lease payments	\$ 11,567
Less: imputed interest	(477)
Total operating lease liabilities	<u>\$ 11,090</u>

For the years ended December 31, 2021 and 2020, rent expense was \$3.9 million and \$4.2 million, respectively.

(9) Commitments and Contingencies

Legal Matters

The Company is involved in various legal and regulatory matters arising from the normal course of business activities. The Company records litigation accruals for legal matters, which are both probable and estimable. For legal proceedings for which there is a reasonable possibility of loss (meaning those losses for which the likelihood is more than remote but less than probable), the Company has determined that it does not have material exposure, or it is unable to develop a range of reasonably possible losses. Although no assurance may be given, the Company believes that it is not presently a party to any litigation of which the outcome, if determined adversely, would individually or in the aggregate be reasonably expected to have a material and adverse effect on the business, operating results, cash flows, or financial position. Legal fees are expensed in the period in which they are incurred.

(10) Net Loss Per Share

Basic net loss per share attributable to the Company's common stockholders is computed in conformity with the two-class method required for participating securities. Prior to the automatic conversion of all of its redeemable convertible preferred stock outstanding into Class B common stock concurrent with the Direct Listing, the Company considered all series of its redeemable convertible preferred stock to be participating securities as holders of such stock had the right to receive nonforfeitable dividends on a ratable basis in the event that a dividend was paid on common stock. Under the two-class method, the net loss attributable to common stockholders was not allocated to the redeemable convertible preferred stock as the preferred stockholders did not have a contractual obligation to share in the Company's losses.

Basic net loss per share is computed by dividing the net loss attributable to the Company's common stockholders by the weighted-average number of shares of common stock outstanding during the period. Diluted net loss per share is the same as basic net loss per share for all periods presented because the effects of potentially dilutive items were anti-dilutive given the Company's net loss position in each period presented.

The rights, including the liquidation and dividend rights, of the holders of Class A and Class B common stock are identical, except with respect to voting, conversion, and transfer rights. As the liquidation and dividend rights are identical, all undistributed earnings are allocated on a proportionate basis to each class of common stock and the resulting basic and diluted net loss per share attributable to common stockholders are, therefore, the same for both Class A and Class B common stock on both an individual and a combined basis.

The following table presents the calculation of basic and diluted net loss per share (in thousands, except per share data):

	Year Ended December 31,		
	<u>2022</u>	<u>2021</u>	<u>2020</u>
Net loss attributable to Class A and Class B common stockholders	\$ (93,377)	\$ (74,983)	\$ (24,567)
Weighted-average shares used in computing net loss per share attributable to Class A and Class B common stockholders, basic and diluted	111,437	51,360	25,060
Net loss per share attributable to Class A and Class B common stockholders, basic and diluted	<u>\$ (0.84)</u>	<u>\$ (1.46)</u>	<u>\$ (0.98)</u>

The following potential common shares were excluded from the calculation of diluted net loss per share because their effect would have been anti-dilutive for the periods presented (in thousands):

	As of December 31,		
	<u>2022</u>	<u>2021</u>	<u>2020</u>
Redeemable convertible preferred stock	—	—	61,718
Warrants	—	—	7
Non-plan stock options	—	—	36
Equity plan stock options outstanding	16,768	21,214	28,445
Equity plan stock options early exercised	235	799	276
RSUs outstanding	9,914	1,717	2,571
Restricted shares	241	362	—
Shares issuable pursuant to the ESPP	558	198	—
Total	<u>27,716</u>	<u>24,290</u>	<u>93,053</u>

(11) Subsequent Events

In January and February 2023, the Company issued 1.0 million RSUs to its employees with service-based vesting conditions. The service-based vesting condition for the majority of these awards is satisfied over three years. The grant date fair value of the RSUs issued in January and February 2023 was approximately \$14.4 million.

Item 9. Changes in and Disagreements With Accountants on Accounting and Financial Disclosure.

None.

Item 9A. Controls and Procedures.**Evaluation of Disclosure Controls and Procedures**

Our management, with the participation of our principal executive officer and our principal financial officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act), as of the end of the period covered by this Annual Report on Form 10-K. Based on that evaluation, our principal executive officer and principal financial officer have concluded that as of the end of the period covered by this Annual Report on Form 10-K, our disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed by us in reports that we file or submit under the Exchange Act is (i) recorded, processed, summarized and reported within the time periods specified in the SEC rules and forms and (ii) accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

Management's Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act). Management conducted an assessment of the effectiveness of our internal control over financial reporting based on the criteria set forth in *Internal Control—Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on that assessment, management has concluded that our internal control over financial reporting was effective as of December 31, 2022 to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP. Our independent registered public accounting firm, KPMG LLP, who audited the consolidated financial statements included in this Annual Report on Form 10-K, issued an audit report on our internal control over financial reporting. That Report of Independent Registered Public Accounting Firm is included in Item 8 of this Annual Report on Form 10-K.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting identified in connection with the evaluation required by Rules 13a-15(d) and 15d-15(d) of the Exchange Act during our most recent fiscal quarter that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations on Effectiveness of Controls and Procedures

Our management, including our principal executive officer and our principal financial officer, believes that our disclosure controls and procedures and internal control over financial reporting are designed to provide reasonable assurance of achieving their objectives and are effective at the reasonable assurance level. However, management does not expect that our disclosure controls and procedures or our internal control over financial reporting will prevent or detect all errors and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the company have been detected. The design of any system of controls also is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, controls may become inadequate because of changes in conditions, or the degree of compliance with the policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

Item 9B. Other Information.

Not applicable.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections.

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

We maintain a code of business conduct and ethics that incorporates our code of ethics applicable to our directors, officers, and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. Our code of business conduct and ethics is available under the Corporate Governance section of our Investor Relations website at investors.amplitude.com. We intend to satisfy the disclosure requirement under Item 5.05 of Form 8-K regarding amendments to, or waiver from, a provision of our code of business conduct and ethics by posting such information on the website address and location specified above.

The remaining information required by this item is incorporated by reference to the definitive Proxy Statement for our 2023 Annual Meeting of Stockholders, which will be filed with the SEC no later than 120 days after December 31, 2022.

Item 11. Executive Compensation.

The information required by this item is incorporated by reference to the definitive Proxy Statement for our 2023 Annual Meeting of Stockholders, which will be filed with the SEC no later than 120 days after December 31, 2022.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

The information required by this item is incorporated by reference to the definitive Proxy Statement for our 2023 Annual Meeting of Stockholders, which will be filed with the SEC no later than 120 days after December 31, 2022.

Item 13. Certain Relationships and Related Transactions, and Director Independence.

The information required by this item is incorporated by reference to the definitive Proxy Statement for our 2023 Annual Meeting of Stockholders, which will be filed with the SEC no later than 120 days after December 31, 2022.

Item 14. Principal Accountant Fees and Services.

The information required by this item is incorporated by reference to the definitive Proxy Statement for our 2023 Annual Meeting of Stockholders, which will be filed with the SEC no later than 120 days after December 31, 2022.

PART IV

Item 15. Exhibits and Financial Statement Schedules.

1. Financial Statements

The following financial statement are included in Part II, Item 8 of this Annual Report on Form 10-K:

Report of Independent Registered Public Accounting Firm

Consolidated Balance Sheets

Consolidated Statements of Operations and Comprehensive Loss

Consolidated Statements of Redeemable Convertible Preferred Stock and Stockholders' Equity (Deficit)

Consolidated Statements of Cash Flows

Notes to Consolidated Financial Statements

2. Financial Statement Schedules

Schedules not listed above have been omitted because the information required to be set forth therein is not applicable or is shown in the financial statements or notes herein.

3. Exhibits

The documents listed in the following Exhibit Index of this Annual Report on Form 10-K are incorporated by reference or are filed with this Annual Report on Form 10-K, in each case as indicated therein (numbered in accordance with Item 601 of Regulation S-K).

Exhibit Number	Description	Form	File No.	Exhibit	Filing Date Filed Herewith
3.1	Restated Certificate of Incorporation of the Registrant.	8-K	001-40817	3.1	9/21/2021
3.2	Amended and Restated Bylaws of the Registrant.	8-K	001-40817	3.2	9/21/2021
4.1	Description of Securities Registered Pursuant to Section 12 of 10-K the Securities Exchange Act of 1934.		001-40817	4.1	2/16/2022
4.2	Specimen Stock Certificate evidencing the shares of Class A Common Stock.	S-1	333-259168	4.2	8/30/2021
4.3	Specimen Stock Certificate evidencing the shares of Class B Common Stock.	S-8	333-259698	4.4	9/21/2021
4.4	Amended and Restated Investors' Rights Agreement, dated as of May 28, 2021, as amended, by and among the Registrant and certain of its stockholders.	S-1	333-259168	4.3	8/30/2021
4.5	Warrant to Purchase Common Stock, dated November 22, 2017, issued to Pacific Western Bank.	S-1	333-259168	4.4	8/30/2021
10.1	Sublease, dated May 13, 2021, by and between the Registrant and Postmates, LLC.	S-1	333-259168	10.1	8/30/2021
10.2(a)#	Amended and Restated 2014 Stock Option and Grant Plan, as amended.	S-1	333-259168	10.2(a)	8/30/2021
10.2(b)#	Form Agreements under Amended and Restated 2014 Stock Option and Grant Plan, as amended.	S-1	333-259168	10.2(b)	8/30/2021
10.3(a)#	2021 Incentive Award Plan.	S-1	333-259168	10.3(a)	8/30/2021
10.3(b)#	Form Agreements under 2021 Incentive Award Plan.	S-1	333-259168	10.3(b)	8/30/2021
10.4#	2021 Employee Stock Purchase Plan.	S-1	333-259168	10.4	8/30/2021

10.5#	Form of Indemnification Agreement between the Registrant and each of its Directors and Executive Officers.	S-1	333-259168	10.5	8/30/2021	
10.6#	Non-Employee Director Compensation Program.	S-1	333-259168	10.6	8/30/2021	
10.7#	Form of Executive Employment Agreement between the Registrant and each of its Executive Officers.					X
21.1	Subsidiaries of Registrant					X
23.1	Consent of KPMG LLP, independent registered public accounting firm.					X
24.1	Power of Attorney (included in signature page hereto)					X
31.1	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.					X
31.2	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.					X
32.1*	Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.					X
32.2*	Certification of Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.					X
101.INS	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File because XBRL tags are embedded within the Inline XBRL document.					X
101.SCH	Inline XBRL Taxonomy Extension Schema Document					X
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document					X
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document					X
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document					X
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document					X
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)					X

Indicates management contract or compensatory plan

* The certifications attached as Exhibit 32.1 and Exhibit 32.2 that accompany this Annual Report on Form 10-K are deemed furnished and not filed with the Securities and Exchange Commission and are not to be incorporated by reference into any filing of Amplitude, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Annual Report on Form 10-K, irrespective of any general incorporation language contained in such filing.

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Amplitude, Inc.

By:

/s/ Spenser Skates
Spenser Skates
Chief Executive Officer

Date: February 16, 2023

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Spenser Skates, Hoang Vuong, and Elizabeth Fisher, and each one of them, as his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in their name, place and stead, in any and all capacities, to sign any amendments to this Annual Report on Form 10-K and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
<u>/s/ Spenser Skates</u> Spenser Skates	Chief Executive Officer and Chairperson <i>(Principal Executive Officer)</i>	February 16, 2023
<u>/s/ Hoang Vuong</u> Hoang Vuong	Chief Financial Officer <i>(Principal Financial Officer)</i>	February 16, 2023
<u>/s/ Ninos Sarkis</u> Ninos Sarkis	Chief Accounting Officer <i>(Principal Accounting Officer)</i>	February 16, 2023
<u>/s/ Ron Gill</u> Ron Gill	Director	February 16, 2023
<u>/s/ Pat Grady</u> Pat Grady	Director	February 16, 2023
<u>/s/ Curtis Liu</u> Curtis Liu	Director	February 16, 2023
<u>/s/ Erica Schultz</u> Erica Schultz	Director	February 16, 2023
<u>/s/ Elisa Steele</u> Elisa Steele	Director	February 16, 2023
<u>/s/ Eric Vishria</u> Eric Vishria	Director	February 16, 2023
<u>/s/ James Whitehurst</u> James Whitehurst	Director	February 16, 2023
<u>/s/ Catherine Wong</u> Catherine Wong	Director	February 16, 2023

