

PROSPECTUS

BIGBEAR.AI HOLDINGS, INC.

27,777,778 Shares of Common Stock

This prospectus relates solely to the offer and sale from time to time of up to an aggregate of 27,777,778 shares of our common stock, par value \$0.0001 per share (“*Common Stock*”), by the selling stockholder identified in this prospectus (the “*Selling Stockholder*,” which term as used in this prospectus includes pledgees, donees, transferees or other successors-in-interest). Such shares consist of (i) 13,888,889 shares of Common Stock that have been issued to the Selling Stockholder (the “*Shares*”) and (ii) 13,888,889 shares of Common Stock (the “*Warrant Shares*”) that are issuable upon the exercise of the Common Stock purchase warrant (the “*Warrant*”) acquired by the Purchaser (as defined below), in each case, pursuant to the Securities Purchase Agreement (as defined below).

On January 19, 2023, BigBear.ai Holdings, Inc. (the “*Company*”) consummated the closing of a private placement (the “*Private Placement*”), pursuant to the terms and conditions of the Securities Purchase Agreement, dated January 16, 2023 (the “*Securities Purchase Agreement*”), by and among the Company and a certain accredited investor (the “*Purchaser*”). Pursuant to the Securities Purchase Agreement, we entered into a registration rights agreement with the Purchaser, dated January 16, 2023 (the “*Registration Rights Agreement*”). The aggregate gross proceeds to the Company from the Private Placement were approximately \$25,000,000, before deducting the placement agent fees and other offering expenses payable by the Company. See “*Private Placement of Shares of Common Stock and Warrant*”

We are registering the Shares and Warrant Shares for resale pursuant to the Registration Rights Agreement. We will not receive any of the proceeds from the sale of these shares of our Common Stock by the Selling Stockholder. However, we will receive proceeds from the exercise of the Warrant, if the Warrant is exercised for cash. We intend to use those proceeds, if any, for general corporate purposes. All fees and expenses incident to the performance of or compliance with the Registration Rights Agreement by us will be borne by us, whether or not any Shares or Warrant Shares are sold pursuant to a registration statement. The Selling Stockholder will pay any broker commissions or similar commissions or fees incurred for the sale of these shares of Common Stock.

The Selling Stockholder may offer such shares from time to time as it may determine through public or private transactions or through other means described in the section entitled “*Plan of Distribution*” at prevailing market prices, at prices related to prevailing market prices or at privately negotiated prices. This prospectus does not necessarily mean that the Selling Stockholder will offer or sell the shares. We cannot predict when or in what amounts the Selling Stockholder may sell any of the shares offered by this prospectus. Any shares of Common Stock subject to resale hereunder will have been issued by us and acquired by the Selling Stockholder prior to any resale of such shares pursuant to this prospectus.

Because all of the shares offered under this prospectus are being offered by the Selling Stockholder, we cannot currently determine the price or prices at which our shares may be sold under this prospectus.

You should read this prospectus and any prospectus supplement or amendment carefully before you invest in our securities. Our Common Stock is listed on The New York Stock Exchange (“*NYSE*”) under the symbol “*BBAI*.” On February 10, 2023, the closing sale price of our Common Stock was \$4.82.

We are an “emerging growth company” under applicable federal securities laws and will be subject to reduced public company reporting requirements.

Investing in our securities involves risks. See “[Risk Factors](#)” on page 5, and any applicable prospectus supplement, and under similar headings in the other documents that are incorporated by reference into this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the securities to be issued under this prospectus or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is February 14, 2023.

TABLE OF CONTENTS

ABOUT THIS PROSPECTUS	iii
CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS	iv
SUMMARY OF THE PROSPECTUS	1
THE OFFERING	4
RISK FACTORS	5
USE OF PROCEEDS	6
PRIVATE PLACEMENT OF SHARES OF COMMON STOCK AND WARRANT	7
SELLING STOCKHOLDER	8
PLAN OF DISTRIBUTION	9
LEGAL MATTERS	11
EXPERTS	11
WHERE YOU CAN FIND MORE INFORMATION	11
INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE	12

[Table of Contents](#)

You should rely only on the information contained in this prospectus. No one has been authorized to provide you with information that is different from that contained in this prospectus. This prospectus is dated as of the date set forth on the cover hereof. You should not assume that the information contained in this prospectus is accurate as of any date other than that date.

For investors outside the United States: We have not done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. You are required to inform yourselves about and to observe any restrictions relating to this offering and the distribution of this prospectus.

ABOUT THIS PROSPECTUS

This prospectus is a part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission (the “SEC”), using a “shelf” registration process. Under this shelf registration process, the Selling Stockholder may, from time to time, sell the shares of Common Stock offered by them described in this prospectus. We will not receive any proceeds from the sale by such Selling Stockholder of the Shares offered by them described in this prospectus. We will not receive any proceeds from the sale of Warrant Shares pursuant to this prospectus, except with respect to amounts received by us upon the exercise of the Warrant for cash.

This prospectus does not include all of the information that is in the registration statement. We omitted certain parts of the registration statement from this prospectus as permitted by the SEC. We refer you to the registration statement and its exhibits for additional information about us and the securities that may be sold under this prospectus.

Neither we nor the Selling Stockholder have authorized anyone to provide you with any information or to make any representations other than those contained in this prospectus or any applicable prospectus supplement or any free writing prospectus prepared by or on behalf of us or to which we have referred you. Neither we nor the Selling Stockholder take responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. Neither we nor the Selling Stockholder will make an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should not assume that the information contained in or incorporated by reference in this prospectus is accurate as of any date other than the respective dates of such document. Our business, financial condition, results of operations and prospects may have changed since those dates.

We may also provide a prospectus supplement or post-effective amendment to the registration statement to add information to, or update or change information contained in, this prospectus. You should read both this prospectus and any applicable prospectus supplement or post-effective amendment to the registration statement together with the additional information to which we refer you in the section of this prospectus entitled “*Where You Can Find More Information.*”

Unless otherwise specified, references to the “*Company*,” “*we*,” “*us*” or “*our*,” are to, (i) prior to the closing of the business combination (the “*Business Combination*”) contemplated by that certain Agreement and Plan of Merger, dated as of June 4, 2021 (as amended on August 6, 2021 and November 29, 2021, the “*Merger Agreement*”), by and among GigCapital4, Inc., a Delaware corporation (“*GigCapital4*”), GigCapital4 Merger Sub Corporation, a Delaware corporation and a wholly owned subsidiary of GigCapital4 (“*Merger Sub*”), BigBear.ai Holdings, LLC, a Delaware limited liability company (“*BigBear.ai Holdings, LLC*”), and BBAI Ultimate Holdings, LLC, a Delaware limited liability company (“*Ultimate*”), either (x) BigBear.ai Holdings, LLC (formerly known as Lake Intermediate, LLC) and its subsidiaries or (y) GigCapital4, as the context may require, and (ii) following the closing of the Business Combination, BigBear.ai Holdings, Inc. and its subsidiaries. Unless the section herein specifies otherwise, references to “*BigBear*” are to (i) prior to the closing of the Business Combination, Ultimate and its subsidiaries and (ii) following the closing of the Business Combination, BigBear.ai Holdings, Inc. and its subsidiaries.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain statements included in this prospectus and the exhibits hereto that are not historical facts are forward-looking statements for purposes of the safe harbor provisions under the United States Private Securities Litigation Reform Act of 1995, to the extent those safe harbor provisions are determined to be available. Forward-looking statements generally are accompanied by words such as “believe,” “may,” “will,” “estimate,” “continue,” “anticipate,” “intend,” “expect,” “should,” “would,” “plan,” “predict,” “potential,” “seem,” “seek,” “future,” “outlook,” and similar expressions that predict or indicate future events or trends or that are not statements of historical matters. These forward-looking statements include, but are not limited to, statements regarding BigBear’s industry, future events, and other statements that are not historical facts. These forward-looking statements are based on current expectations and beliefs concerning future developments and their potential effects on us and should not be relied upon as representing BigBear’s assessments as of any date subsequent to the date of this prospectus. There can be no assurance that future developments affecting us will be those that we have anticipated. These forward-looking statements are also subject to a number of risks and uncertainties (some of which are beyond our control) or other assumptions that may cause actual results or performance to be materially different from those expressed or implied, including, but not limited to, risks relating to the following:

- our limited operating history as a combined company, which makes it difficult to evaluate our current business and future prospects;
- our ability to sustain our revenue growth in the future;
- our ability to execute our strategy to grow our business and increase our sales and the number and types of markets we compete in;
- the length of our sales cycle and the time and expense associated with it;
- our ability to grow our customer base and to expand our relationships with our existing customers, including with our government customers;
- our reliance on customers in the public/government sector;
- the market and our customers accepting and adopting our products, including our future new product offerings;
- the impact of health epidemics, including the COVID-19 pandemic, on our business, financial condition, growth, and the actions we may take in response thereto;
- competition in our industry;
- our ability to gain contracts on favorable terms, including with our government customers;
- our ability to successfully compete for and receive task orders and generate revenue under Indefinite Delivery/Indefinite Quantity contracts;
- our ability to grow, maintain and enhance our brand and reputation;
- security and our technology, including cybersecurity;
- our ability to maintain competitive pricing for our products;
- our ability to secure financing necessary to operate and grow our business as planned, including through acquisitions;

Table of Contents

- the high degree of uncertainty of the level of demand for, and market utilization of, our solutions and products;
- substantial regulation and the potential for unfavorable changes to, or failure by us to comply with, these regulations, which could substantially harm our business and operating results;
- our dependency upon third-party service providers for certain technologies;
- increases in costs, disruption of supply or shortage of materials, which could harm our business;
- developments and projections relating to our competitors and industry;
- the unavailability, reduction or elimination of government and economic incentives, which could have a material adverse effect on our business, prospects, financial condition and operating results;
- our existing debt and our ability to refinance it on more favorable terms;
- our management team's limited experience managing a public company;
- our ability to hire, retain, train and motivate qualified personnel and senior management and ability to deploy our personnel and resources to meet customer demand;
- our ability to successfully execute future joint ventures, channel sales relationships, platform partnerships, strategic alliances and subcontracting opportunities;
- our ability to grow through acquisitions and successfully integrate any such acquisitions;
- our ability to successfully maintain, protect, enforce and grow our intellectual property rights;
- our compliance with governmental laws, trade controls, customs requirements and other regulations we are subject to;
- the possibility of our need to defend ourselves against fines, penalties and injunctions if we are determined to be promoting products for unapproved uses or otherwise found to have violated a law or regulation;
- concentration of ownership among our existing executive officers, directors and their respective affiliates, which may prevent new investors from influencing significant corporate decisions;
- the effect of economic downturns, depressions and recessions;
- not obtaining the benefits of the Business Combination expected by investors or securities analysts, and the potential for the market price of our securities to decline;
- disruptions to the plans and operations of our business as a result of the Business Combination and any future acquisitions, mergers, dispositions, joint ventures or investments we make; and
- our significantly increased expenses and administrative burdens as a public company and any resulting adverse effect on our business, financial condition and results of operations.

Should one or more of these risks or uncertainties materialize, or should any of our assumptions prove incorrect, actual results may vary in material respects from those projected in these forward-looking statements.

Table of Contents

Some of these risks and uncertainties may in the future be amplified by the COVID-19 outbreak and there may be additional risks that we consider immaterial or which are unknown. It is not possible to predict or identify all such risks. Accordingly, undue reliance should not be placed upon the forward-looking statements. We do not undertake any obligation to update or revise any forward-looking statements whether as a result of new information, future events or otherwise, except as may be required under applicable securities laws.

In particular, you should consider the numerous risks described in our Annual Report on Form 10-K for the period ended December 31, 2021, and as described or may be described in any subsequent Annual Report on Form 10-K or any Quarterly Report on Form 10-Q under the heading “*Item 1A. Risk Factors*,” which are incorporated by reference into this prospectus, and any other documents we file with the SEC that are deemed incorporated by reference into this prospectus and in the “*Risk Factors*” section in the applicable prospectus supplement. See “*Where You Can Find More Information*.” Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we make.

Before any stockholder invests in our securities, such stockholder should be aware that the occurrence of the events described in this section and elsewhere in this prospectus may adversely affect us.

SUMMARY OF THE PROSPECTUS

This summary highlights selected information contained elsewhere or incorporated by reference in this prospectus. The summary may not contain all the information that you should consider before investing in our securities. You should read the entire prospectus carefully, including "Risk Factors" contained in the documents incorporated by reference herein, before making an investment decision.

Company Overview

BigBear.ai Holdings, Inc.'s ("BigBear" or the "Company") mission is guiding our customers to realize their best possible future by delivering transformative technologies and expert, actionable advice. Through this mission, we seek to empower people to make the right decisions, at the right time, every time.

Business Overview



BigBear.ai is a leader in the use of Artificial Intelligence (AI) and Machine Learning (ML) for decision support. We provide our customers with a competitive advantage in a world driven by data that is growing exponentially in terms of volume, variety, and velocity. We believe data – when leveraged effectively – can be a strategic asset for any organization. Through our mission-critical analytics solutions and operational expertise, we help our customers make sense of the world in which they operate, understand how known and previously unforeseen forces impact their operations, and determine which decision and course of action will best achieve their objectives.

BigBear.ai products and services are widely used by government agencies in the United States to support many of the nation's most critical defense and intelligence capabilities. These customers operate in environments of unrivaled scale and complexity, where the cost of a poor decision can be very steep, and the cost of failure devastating. They demand the most sophisticated and capable AI, ML, and predictive analytics solutions available, from a provider who understands their complex operations and can rapidly deploy technology at scale with uncompromising reliability.

The need to make sense of enormous volumes of data is not unique to government agencies. Commercial enterprises have spent several decades amassing vast volumes of data, but few have the resources and AI expertise required to turn that data into actionable information for operational decision making. The complexity of integrating disparate, often dirty and incomplete data, and then applying highly technical AI tools to enrich, analyze, and predict outcomes with the data, has limited the adoption of AI for decision support in commercial markets.

At BigBear.ai, we are making AI-powered decision support accessible and scalable for any organization. Our solutions empower businesspeople to leverage more data sources, faster and easier, and to derive new insights hidden in the data – even flawed data – in a way that is visible, understandable, actionable, and trustworthy. As a result, our customers can crystallize and accelerate operational decision making to gain competitive advantage in real-world environments.

Background and Business Combination

The Company was originally known as GigCapital4.

On December 7, 2021, we consummated the Business Combination contemplated by the Merger Agreement, whereby (a) Merger Sub merged with and into BigBear.ai Holdings, LLC (the “*First Merger*”), with BigBear.ai Holdings, LLC as the surviving company in the First Merger and as a wholly owned subsidiary of GigCapital4, and, immediately after the First Merger (b) BigBear.ai Holdings, LLC merged with and into GigCapital4 (the “*Second Merger*”), with GigCapital4 as the surviving entity in the Second Merger. In connection with the closing of the Business Combination, on December 7, 2021, GigCapital4 changed its name from GigCapital4, Inc. to BigBear.ai Holdings, Inc.

Pursuant to the terms of the Merger Agreement, at the time of the First Merger (the “*First Effective Time*”), each unit of limited liability company interest of BigBear.ai Holdings, LLC issued and outstanding immediately prior to the First Effective Time (other than units held in BigBear.ai Holdings, LLC’s treasury or owned by GigCapital4, Merger Sub or BigBear.ai Holdings, LLC immediately prior to the First Effective Time) were cancelled and automatically deemed for all purposes to represent the right to receive, in the aggregate (the “*Aggregate Merger Consideration*”), (i) in book entry, a number of shares of GigCapital4 Common Stock equal to the result of dividing (x) the difference of (A) \$1,125,000,000, minus (B) \$75,000,000, by (y) 10.00 (rounded up to the nearest whole number of shares). Ultimate, as the sole member of BigBear.ai Holdings, LLC prior to the Business Combination, was paid the Aggregate Merger Consideration (the “*Equity Merger Consideration*”), and (ii) \$75,000,000, in each case without interest and otherwise in accordance with the terms of the Merger Agreement.

At the time of the Second Merger (the “*Second Effective Time*”), each unit of limited liability company interest of BigBear.ai Holdings, LLC issued and outstanding immediately prior to the Second Effective Time was cancelled and ceased to exist without any conversion thereof or payment therefor, and the capital stock of GigCapital4 outstanding immediately prior to the Second Effective Time remained outstanding as the capital stock of GigCapital4, which, collectively with the \$200,000,000 in aggregate principal amount of 6.00% convertible senior notes due 2026 (the “*2026 Convertible Notes*”) issued at the Second Effective Time (as further described below) and the warrants entitling the holders to purchase one share of GigCapital4 Common Stock per warrant (“*GigCapital4 Warrants*”), constituted one hundred percent (100%) of the outstanding equity securities (and securities convertible into equity securities) of BigBear immediately after the Second Effective Time.

Stock Exchange Listing

BigBear’s Common Stock and public warrants are listed on the NYSE under the symbols “*BBAT*” and “*BBAIW*,” respectively.

Recent Developments

On January 19, 2023, the Company consummated the closing of the Private Placement pursuant to the terms and conditions of the Securities Purchase Agreement. Pursuant to the Securities Purchase Agreement, we entered into the Registration Rights Agreement. The aggregate gross proceeds to the Company from the Private Placement were approximately \$25,000,000, before deducting the placement agent fees and other offering expenses payable by the Company. See “*Private Placement of Shares of Common Stock and Warrant*”

Corporate Information

BigBear is a Delaware corporation. Our principal executive offices are located at BigBear.ai Holdings, Inc., 6811 Benjamin Franklin Drive, Suite 200, Columbia, Maryland 21046, and our telephone number is (410) 312-0885. Our principal website address is <https://bigbear.ai>. Information contained in, or accessible through, our website is not a part of, and is not incorporated by reference into, this prospectus or the registration statement of which it forms a part.

Emerging Growth Company

The Company is an “emerging growth company,” as defined under the Jumpstart Our Business Startups Act of 2012, as amended (the “*JOBS Act*”). As an emerging growth company, the Company is eligible to take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies. These include, but are not limited to, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as amended (the “*Sarbanes-Oxley Act*”), reduced disclosure obligations regarding executive compensation in its periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and the requirement to obtain stockholder approval of any golden parachute payments not previously approved.

In addition, Section 107 of the JOBS Act provides that an emerging growth company can take advantage of an extended transition period provided in Section 7(a)(2)(B) of the Securities Act of 1933, as amended (the “*Securities Act*”) for complying with new or revised accounting standards.

The Company will remain an emerging growth company until the earlier of (i) December 31, 2026 (the last day of the fiscal year following the fifth anniversary of the consummation of the Company’s initial public offering), (ii) the last day of the fiscal year in which the Company has total annual gross revenue of at least \$1.07 billion, (iii) the last day of the fiscal year in which the Company is deemed to be a “large accelerated filer,” as defined in the Securities Exchange Act of 1934, as amended (the “*Exchange Act*”) and (iv) the date on which the Company has issued more than \$1.0 billion in nonconvertible debt during the prior three-year period.

THE OFFERING

Issuer	BigBear.ai Holdings, Inc.
Shares of Common Stock Offered by the Selling Stockholder	Up to 27,777,778 shares (including 13,888,889 shares issuable upon the exercise of the Warrant held by the Selling Stockholder).
Use of proceeds	We will not receive any proceeds from the sale of shares of Common Stock by the Selling Stockholder. With respect to the shares of Common Stock underlying the Warrant, we will not receive any proceeds from such shares except with respect to amounts received by us upon the exercise of the Warrant to the extent the Warrant is exercised for cash. We intend to use any such proceeds from warrant exercise for general corporate purposes. We do not believe it is likely that the Selling Stockholder would elect to exercise any portion of the Warrant when our Common Stock is trading below \$2.39. See “ <i>Use of Proceeds.</i> ”
Market for Common Stock	Our Common Stock is currently traded on the NYSE under the symbol “BBAI.”
Risk factors	Any investment in the securities offered hereby is speculative and involves a high degree of risk. You should carefully consider the information set forth under “ <i>Part I, Item 1A-Risk Factors</i> ” in our Annual Report on Form 10-K for the period ended December 31, 2021, and as described or may be described in any subsequent Annual Report on Form 10-K or any Quarterly Report on Form 10-Q under the heading “ <i>Item 1A.Risk Factors,</i> ” as well as in any other documents we file with the SEC that are deemed incorporated by reference into this prospectus and the “ <i>Risk Factors</i> ” section in the applicable prospectus supplement.

RISK FACTORS

Investing in our securities involves a high degree of risk. See “Part I, Item 1A-Risk Factors” in our Annual Report on Form 10-K for the period ended December 31, 2021, as filed with the SEC on March 31, 2022, and as described or may be described in any Quarterly Report on Form 10-Q or subsequent Annual Report on Form 10-K under the heading “Item 1A. Risk Factors,” as well as in any other documents we file with the SEC that are deemed incorporated by reference into this prospectus and the “Risk Factors” section in the applicable prospectus supplement for a discussion of the factors you should carefully consider before deciding to purchase our securities. Before you invest in our securities, you should carefully consider these risks as well as other information we include or incorporate by reference into this prospectus and the applicable prospectus supplement. The risks and uncertainties we have described are not the only ones facing our company. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our business operations. The occurrence of any of these risks might cause you to lose all or part of your investment in the offered securities. The discussion of risks includes or refers to forward-looking statements; you should read the explanation of the qualifications and limitations on such forward-looking statements discussed elsewhere in this prospectus.

USE OF PROCEEDS

All of the Common Stock offered by the Selling Stockholder pursuant to this prospectus will be sold by the Selling Stockholder for its own account. We will not receive any of the proceeds from these sales.

The Selling Stockholder will pay any underwriting fees, discounts, selling commissions, stock transfer taxes and certain legal expenses incurred by such Selling Stockholder in disposing of its shares of Common Stock, and we will bear all other costs, fees and expenses incurred in effecting the registration of the securities covered by this prospectus, including, without limitation, all registration and filing fees, NYSE listing fees and fees and expenses of our counsel and our independent registered public accountants.

With respect to the Warrant Shares, we will not receive any proceeds from such shares except with respect to amounts received by us upon the exercise of the Warrant to the extent the Warrant is exercised for cash. We intend to use any such proceeds for general corporate purposes.

We do not believe it is likely that the Selling Stockholder would elect to exercise the Warrant when our Common Stock is trading below \$2.39 and any cash proceeds that would be received by the Company is dependent on the trading price of the Common Stock underlying the Warrant. We do not believe that the Selling Stockholder's failure to exercise the Warrant for cash would have a material impact on our liquidity, financial position or results of operations.

PRIVATE PLACEMENT OF SHARES OF COMMON STOCK AND WARRANT

On January 19, 2023, the Company consummated the closing of the Private Placement, pursuant to the terms and conditions of the Securities Purchase Agreement. At the closing of the Private Placement, the Company issued (i) 13,888,889 Shares; and (ii) the Warrant to purchase up to an additional 13,888,889 Warrant Shares that are issuable upon its exercise. The Warrant has an exercise price of \$2.39 per share of Common Stock. The Warrant may be exercisable as of July 19, 2023 until July 19, 2028. The Warrant is subject to a 4.99% beneficial ownership limitation that precludes the Purchaser from exercising any portion of the Warrant to the extent that, following such exercise, the Purchaser's beneficial ownership of our then outstanding Common Stock would exceed 4.99%.

The purchase price of each Share and associated Warrant was \$1.80. The aggregate gross proceeds to the Company from the Private Placement were approximately \$25,000,000, before deducting the placement agent fees and other offering expenses payable by the Company. The Company intends to use the net proceeds from the offering for general corporate purposes, including working capital.

The Securities Purchase Agreement contains customary representations, warranties, and covenants of the Company and the Purchaser and customary closing conditions, indemnification rights, and other obligations of the parties. In connection with the Private Placement, we entered into the Registration Rights Agreement with the Purchaser. Pursuant to the Registration Rights Agreement, we are required to file and maintain a resale registration statement with the SEC in order to register the shares sold to the Purchaser and the shares underlying the Warrant. We will be obligated to pay certain liquidated damages to the Purchaser if we fail to maintain the effectiveness of the registration statement pursuant to the terms of the Registration Rights Agreement.

SELLING STOCKHOLDER

This prospectus relates to the resale by the Selling Stockholder from time to time of up to 27,777,778 shares of Common Stock (including 13,888,889 shares issuable upon the exercise of the Warrant held by the Selling Stockholder). The Selling Stockholder may from time to time offer and sell any or all of the Common Stock set forth below pursuant to this prospectus and any accompanying prospectus supplement. When we refer to the “Selling Stockholder” in this prospectus, we mean the person listed in the table below, and the pledgees, donees, transferees, assignees, successors, designees and others who later come to hold any of the Selling Stockholder’s interest in the Common Stock other than through a public sale.

The following table sets forth, as of the date of this prospectus, the name of the Selling Stockholder, the aggregate number of shares of Common Stock beneficially owned, the aggregate number of shares of Common Stock that the Selling Stockholder may offer pursuant to this prospectus and the number of shares of Common Stock beneficially owned by the Selling Stockholder after the sale of the securities offered hereby. We have based percentage ownership on 141,153,331 shares of Common Stock outstanding as of February 10, 2023.

We have determined beneficial ownership in accordance with the rules of the SEC and the information is not necessarily indicative of beneficial ownership for any other purpose. Unless otherwise indicated below, to our knowledge, the persons and entities named in the table have sole voting and sole investment power with respect to all securities that they beneficially own, subject to community property laws where applicable.

We cannot advise you as to whether the Selling Stockholder will in fact sell any or all of such Common Stock. In addition, the Selling Stockholder may sell, transfer or otherwise dispose of, at any time and from time to time, the Common Stock in transactions exempt from the registration requirements of the Securities Act after the date of this prospectus. For purposes of this table, we have assumed that the Selling Stockholder will have sold all of the securities covered by this prospectus upon the completion of the offering.

Selling Stockholder information for each additional Selling Stockholder, if any, will be set forth by prospectus supplement to the extent required prior to the time of any offer or sale of such Selling Stockholder’s shares pursuant to this prospectus. Any prospectus supplement may add, update, substitute, or change the information contained in this prospectus, including the identity of each Selling Stockholder and the number of shares registered on its behalf. A Selling Stockholder may sell or otherwise transfer all, some or none of such shares in this offering. See “*Plan of Distribution.*”

Name of Selling Stockholder	Shares Beneficially Owned Prior to the Offering		Shares Being Offered	Shares Beneficially Owned After the Offering	
	Shares	%⁽¹⁾		Shares	%
Armistice Capital Master Fund, Ltd.(2)	27,777,778	17.92%	27,777,778	—	—

- (1) We have based percentage ownership assuming full exercise of the Warrant and based on 141,153,331 shares of Common Stock outstanding as of February 10, 2023.
- (2) The Common Stock to be sold pursuant to this prospectus includes 13,888,889 Shares and 13,888,889 Warrant Shares that are issuable upon the exercise of the Warrant. These securities are directly held by (i) Armistice Capital Master Fund, Ltd. (the “*Master Fund*”), a Cayman Islands exempted company, and may be deemed to be indirectly beneficially owned by Armistice Capital, LLC (“*Armistice*”), as the investment manager of the Master Fund; and (ii) Steven Boyd, as the Managing Member of Armistice. Armistice and Steven Boyd disclaim beneficial ownership of the reported securities except to the extent of their respective pecuniary interest therein. The Warrant is subject to a 4.99% beneficial ownership limitation that precludes the Master Fund from exercising any portion of the Warrant to the extent that, following such exercise, the Master Fund’s beneficial ownership of our then outstanding Common Stock would exceed 4.99%. The number of shares set forth in the above table do not reflect the application of this limitation. The address of the Master Fund is c/o Armistice Capital, LLC, 510 Madison Avenue, 7th Floor, New York, NY 10022.

PLAN OF DISTRIBUTION

The Selling Stockholder of the securities and any of its pledgees, assignees and successors-in-interest may, from time to time, sell any or all of their securities covered hereby on the NYSE or any other stock exchange, market or trading facility on which the securities are traded or in private transactions. These sales may be at fixed or negotiated prices. A Selling Stockholder may use any one or more of the following methods when selling securities:

The Selling Stockholder may use any one or more of the following methods when disposing of their shares of our Common Stock:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- settlement of short sales;
- in transactions through broker-dealers that agree with the Selling Stockholder to sell a specified number of such shares at a stipulated price per security;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

The Selling Stockholder may also sell securities under Rule 144 or any other exemption from registration under the Securities Act, if available, rather than under this prospectus. Broker-dealers engaged by the Selling Stockholder may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the Selling Stockholder (or, if any broker-dealer acts as agent for the purchaser of securities, from the purchaser) in amounts to be negotiated, but, except as set forth in a supplement to this prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with FINRA Rule 2121; and in the case of a principal transaction a markup or markdown in compliance with FINRA Rule 2121.

In connection with the sale of the securities or interests therein, the Selling Stockholder may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the securities in the course of hedging the positions they assume. The Selling Stockholder may also sell securities short and deliver these securities to close out their short positions, or loan or pledge the securities to broker-dealers that in turn may sell these securities. The Selling Stockholder may also enter into option or other transactions with broker-dealers or other financial institutions or create one or more derivative securities which require the delivery to such broker-dealer or other financial institution of securities offered by this prospectus, which securities such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The Selling Stockholder and any broker-dealers or agents that are involved in selling the securities may be deemed to be “underwriters” within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the securities purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. Each Selling Stockholder has informed the Company that it does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the securities.

Table of Contents

The Company is required to pay certain fees and expenses incurred by the Company incident to the registration of the securities. The Company has agreed to indemnify the Selling Stockholder against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

We agreed to use commercially reasonable efforts to keep the registration statement of which this prospectus forms a part effective until (i) the date on which the securities may be resold by the Selling Stockholder without registration and without regard to any volume or manner-of-sale limitations by reason of Rule 144, without the requirement for the Company to be in compliance with the current public information requirement under Rule 144 under the Securities Act or any other rule of similar effect or (ii) the date on which all of the securities have been sold pursuant to this prospectus or Rule 144 under the Securities Act or any other rule of similar effect. The resale securities will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the resale securities covered hereby may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

Under applicable rules and regulations under the Exchange Act, any person engaged in the distribution of the resale securities may not simultaneously engage in market making activities with respect to the Common Stock for the applicable restricted period, as defined in Regulation M, prior to the commencement of the distribution. In addition, the Selling Stockholder will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of the Common Stock by the Selling Stockholder or any other person. We will make copies of this prospectus available to the Selling Stockholder and have informed them of the need to deliver a copy of this prospectus to each purchaser at or prior to the time of the sale (including by compliance with Rule 172 under the Securities Act).

LEGAL MATTERS

The validity of the securities offered hereby will be passed upon for us by Kirkland & Ellis LLP, New York, New York.

EXPERTS

The audited financial statements incorporated by reference in this prospectus and elsewhere in the registration statement have been so incorporated by reference in reliance of the report of Grant Thornton LLP, independent registered public accountants, upon the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed a registration statement on Form S-3, including exhibits, under the Securities Act, with respect to the Common Stock offered by this prospectus. This prospectus does not contain all of the information included or incorporated by reference in the registration statement. For further information pertaining to us and our securities, you should refer to the registration statement and our exhibits or the exhibits to the reports or other documents incorporated by reference into this prospectus.

In addition, we file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public on a website maintained by the SEC located at <http://www.sec.gov>. We also maintain a website at <https://ir.bigbear.ai>, where you may access these materials free of charge. Information contained on or accessible through our website is not a part of this prospectus, and the inclusion of our website address in this prospectus is an inactive textual reference only. If you would like additional copies of this prospectus, you should contact us at the following address and telephone number:

BigBear.ai Holdings, Inc.
6811 Benjamin Franklin Drive, Suite 200
Columbia, Maryland 21046
(410) 312-0885

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to “incorporate by reference” into this prospectus the information we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus, and information in documents that we file later with the SEC will automatically update and supersede information in this prospectus. We incorporate by reference into this prospectus the documents listed below and any future filings, including all filings made after the date of the filing of the registration statement of which this prospectus is a part and prior to the effectiveness of such registration statement, made by us with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act, except for information “furnished” under Items 2.02, 7.01 or 9.01 on Form 8-K or other information “furnished” to the SEC, which is not deemed filed and not incorporated in this prospectus, until the termination of the offering of securities described in the applicable prospectus supplement. We hereby incorporate by reference the following documents:

- our Annual Report on [Form 10-K](#) for the year ended December 31, 2021, as filed with the SEC on March 31, 2022;
- our Amendment to our Annual Report on [Form 10-K/A](#) for the year ended December 31, 2021, as filed with the SEC on April 29, 2022;
- our Quarterly Reports on Form 10-Q for the quarterly periods ended March 31, 2022, June 30, 2022 and September 30, 2022 as filed with the SEC on [May 12, 2022](#), [August 12, 2022](#) and [November 10, 2022](#), respectively;
- our Current Reports on Form 8-K filed with the SEC on [February 23, 2022](#), [June 2, 2022](#), [June 23, 2022](#), [August 9, 2022](#), [September 1, 2022](#), [September 20, 2022](#), [October 11, 2022](#), [November 21, 2022](#), [December 23, 2022](#), [January 4, 2023](#) and [January 19, 2023](#) (excluding any information furnished but not filed in such reports under Item 2.02, Item 7.01, or Item 9.01);
- the description of our securities contained in our Registration Statement on [Form S-1](#), as filed with the SEC on December 23, 2021, including any amendment or report filed for the purpose of updating such description.

Any statement contained in a document incorporated or deemed to be incorporated by reference into this prospectus will be deemed modified, superseded or replaced for purposes of this prospectus to the extent that a statement contained in this prospectus modifies, supersedes or replaces such statement.

You may request a copy of these filings, at no cost, by writing or telephoning us at the following address:

BigBear.ai Holdings, Inc.
6811 Benjamin Franklin Drive, Suite 200
Columbia, Maryland 21046
(410) 312-0885

Copies of these filings are also available, without charge, on the SEC’s website at <http://www.sec.gov> and on our website at <https://ir.bigbear.ai> as soon as reasonably practicable after they are filed electronically with the SEC. The information contained on our website is not a part of this prospectus and is not incorporated by reference into, this prospectus or the registration statement of which it forms a part.