



EMERGING TECH RESEARCH

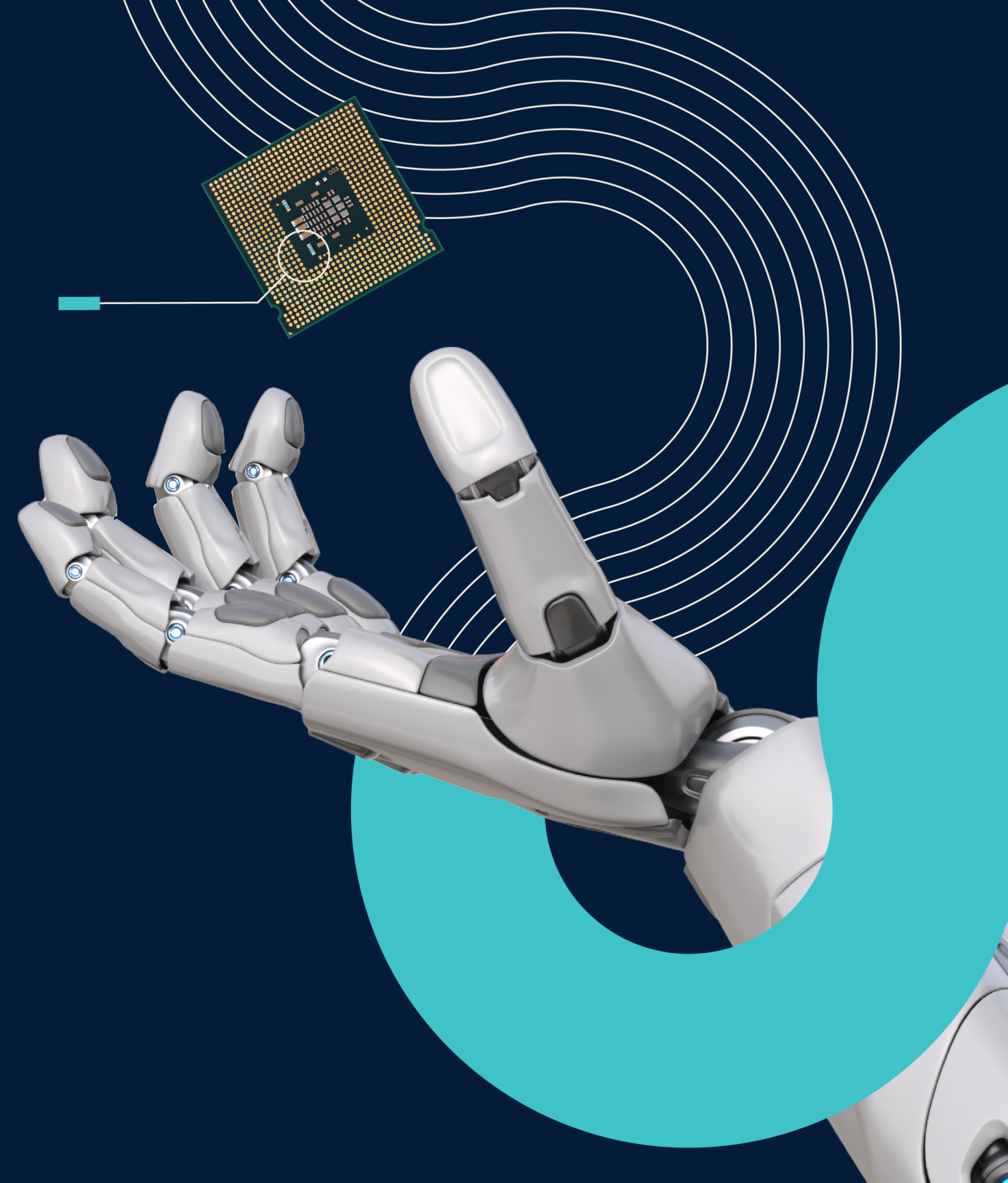
# Artificial Intelligence & Machine Learning Report

VC trends and emerging opportunities

**Q3**  
2023

## REPORT PREVIEW

The full report is available through  
the PitchBook Platform.





# Contents

Vertical overview	3
Q3 2023 timeline	4
AI & ML landscape	5
AI & ML VC ecosystem market map	6
VC activity	7
<b>Emerging opportunities</b>	<b>15</b>
AI agents	16
Code automation	19
Ambient AI	22
<b>Select company highlights</b>	<b>25</b>
Databricks	26
DataRobot	29

We are adding PitchBook Exit Predictor probabilities to our Emerging Technology Research reports. PitchBook's proprietary [VC Exit Predictor](#) estimates the probability that a startup, or VC-backed company, will successfully IPO, be acquired, or merge. The tool is available exclusively to PitchBook clients. Additionally, we have launched a pre-seed report methodology to more accurately and comprehensively capture deals from the earliest phase of venture. Going forward we will sunset "angel" as a specified stage of venture in all of PitchBook's venture-focused reports.

## Institutional Research Group

### Analysis



**Brendan Burke** Senior Analyst, Emerging Technology  
brendan.burke@pitchbook.com  
pbinstitutionalresearch@pitchbook.com

### Data

**Matthew Nacionales** Data Analyst

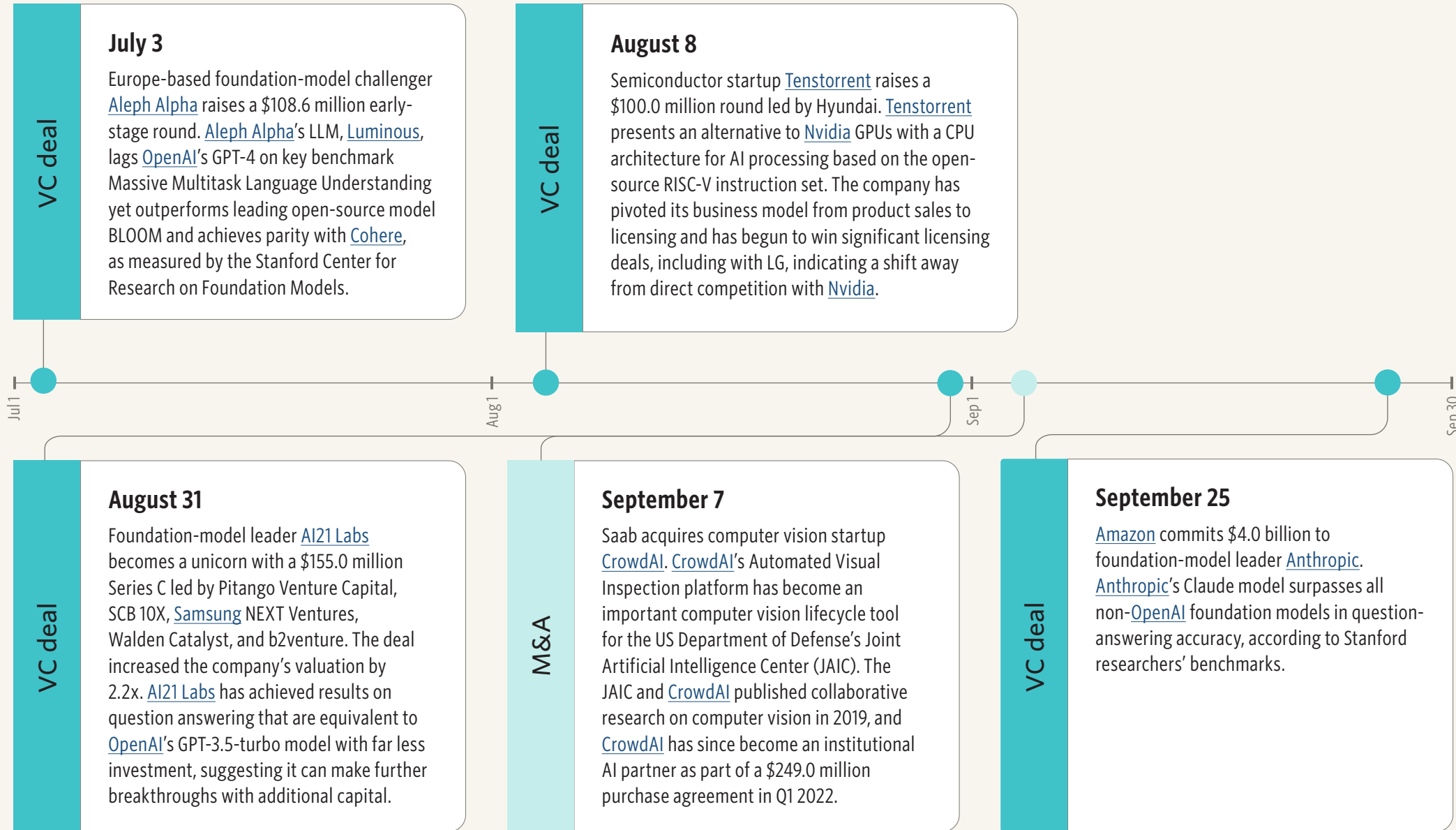
## Publishing

Report designed by **Jenna O'Malley** and **Julia Midkiff**

Published on December 5, 2023



# Q3 2023 timeline



## Q3 VC deal activity

**1,650**  
total deals

**\$21.1B**  
total VC raised

**34.1%**  
deal value growth QoQ

## 2023 YTD summary

**5,208**  
total deals

**\$68.7B**  
total VC raised

**-26.6%**  
deal value growth YoY



# AI & ML landscape

- 1** Horizontal platforms
- 2** Vertical applications
- 3** Semiconductors
- 4** Autonomous machines

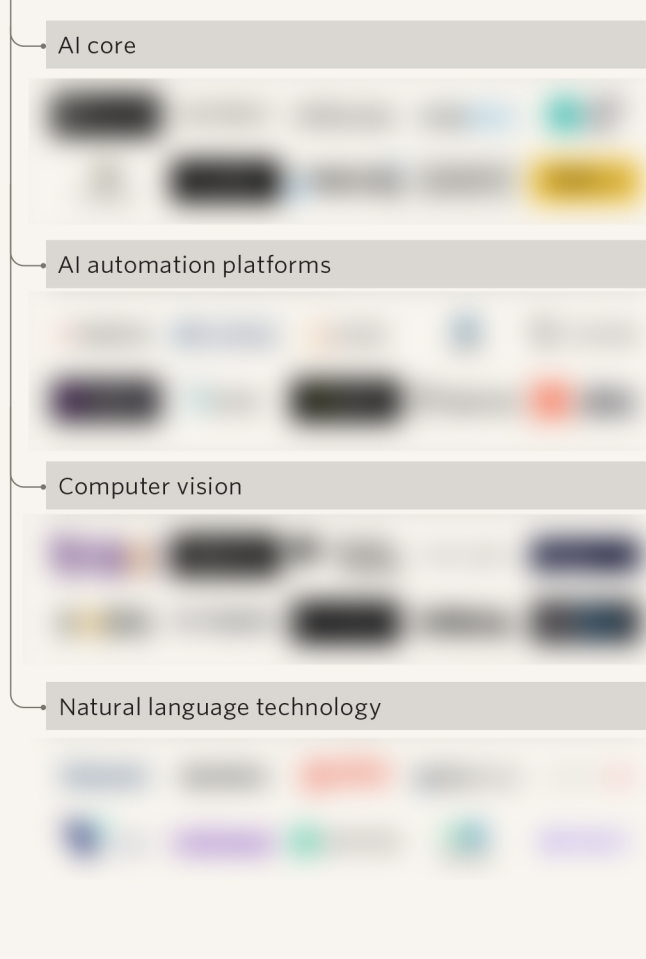




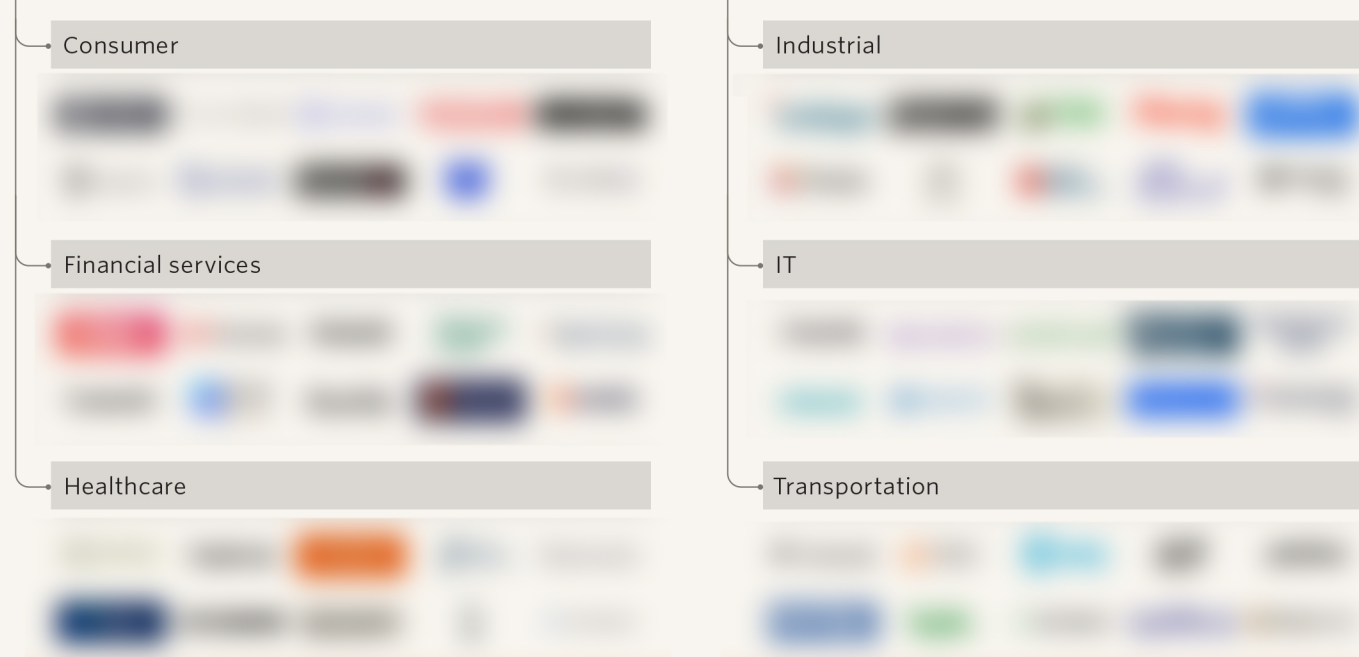
# AI & ML VC ecosystem market map

Market map is a representative overview of venture-backed or growth-stage providers in each segment. Companies listed have received venture capital or other notable private investments.

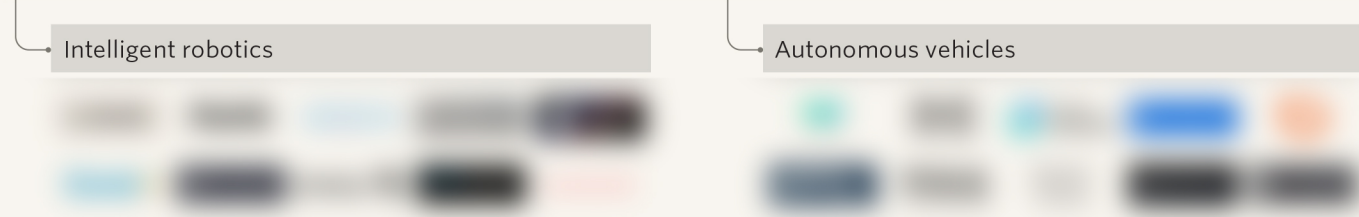
## Horizontal platforms



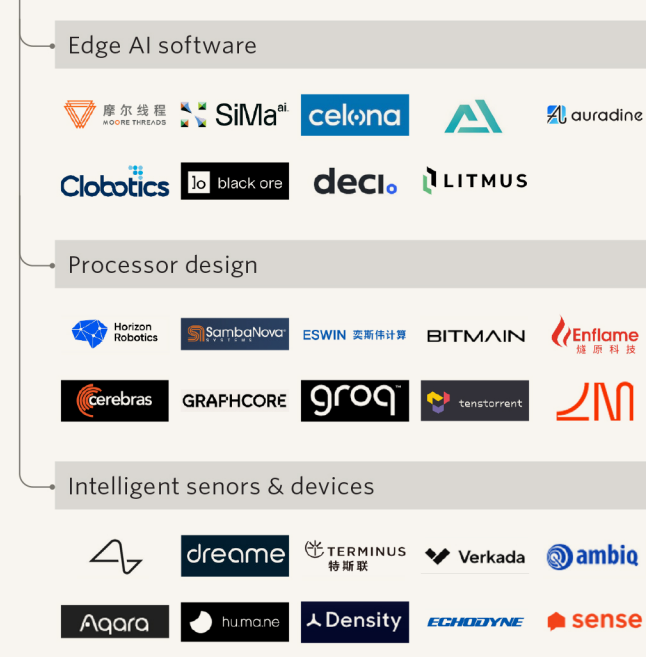
## Vertical applications AI & ML semi conductors



## Autonomous machines



## AI & ML semiconductors





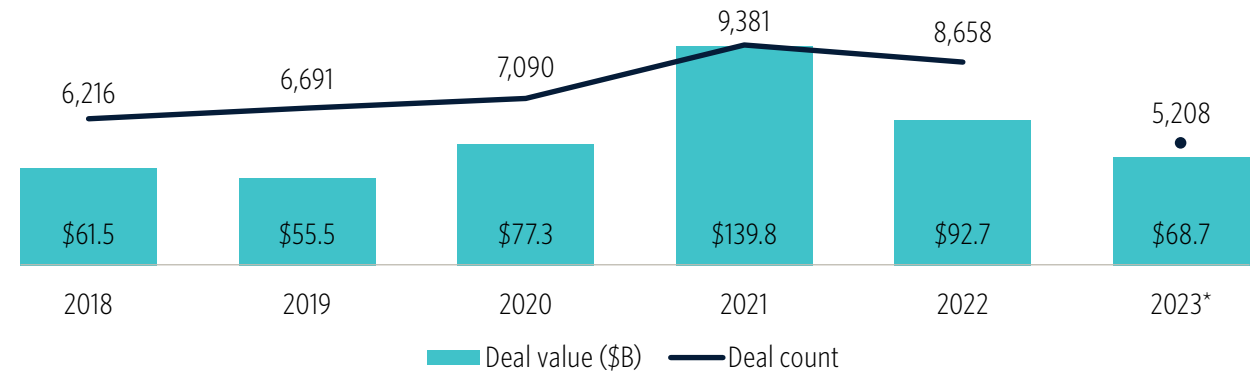


# VC activity

VC activity has remained consistent throughout the VC downturn over the past five quarters, leaving aside the tech giant megadeals that commit upfront funds for future cloud purchases. We tracked \$22.1 billion in Q3, including an outlier \$4.0 billion deal size for [Anthropic](#), led by [Amazon](#). Deal count has remained sharply lower than pre-downturn levels, even given generative AI (genAI) excitement over the past four quarters. These totals would assuredly be much lower without tech giants' involvement in genAI deals, with genAI leaders raising \$7.0 billion in Q3 across only 145 deals. Beyond these leading deals, all vertical applications except for consumer AI and transportation raised more than \$1.0 billion for the first time since the downturn, exhibiting health for late-stage funding in specific domains. Other subsegments remained steady except for computer vision and Edge AI, which underperformed prior quarters.

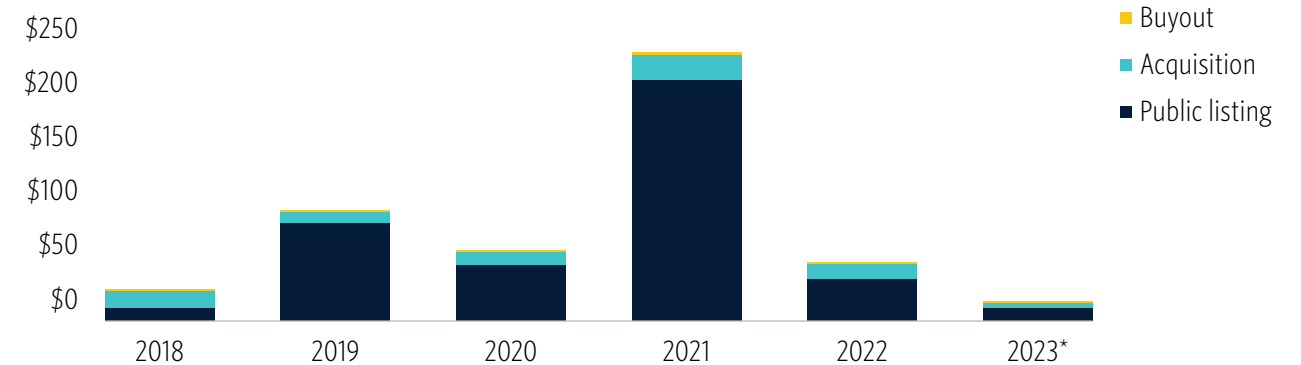
VC exit activity rebounded with \$9.1 billion in disclosed exit value across 108 exits, buoyed by Chinese IPOs and outlier acquisitions for AI research leaders [MosaicML](#) (\$1.3 billion) and [InstaDeep](#) (\$680.9 million). The Chinese IPO market remained wide open, with eight IPOs during the quarter, led by [4Paradigm](#)'s \$3.3 billion exit at a 6.7x EV/revenue multiple. Tech giants remained dormant in M&A given their focus on partnerships with leading LLM startups. Exceptions included AMD's acquisition of Mipsology in AI semiconductors, [SAP](#)'s acquisition of [Kausa](#) in business intelligence, and Dell's acquisition of [Moogsoft](#) in AIOps. [Arm](#)'s IPO tested the market's appetite for AI-adjacent technology stories, as outlined in our [IPO and S1 Navigator](#), and faced a tepid response. AI modernization via M&A appears to be a reviving source of exits, and we expect to see more mega-exits over \$1.0 billion via acquisition in 2024.

## AI & ML VC deal activity



Source: PitchBook • Geography: Global • \*As of September 30, 2023

## AI & ML VC exit value (\$B) by type



Source: PitchBook • Geography: Global • \*As of September 30, 2023



## VC ACTIVITY

### Key Q3 AI & ML late-stage VC deals by deal value (\$M)\*

Company name	Close date (2023)	Category	Deal size (\$M)	Lead investor(s)	Valuation step-up (post to pre)
<a href="#">Anthropic</a>	September 25	Foundation models	\$4,000.0	Amazon.com	N/A
<a href="#">Conigital</a>	September 11	Autonomous vehicle design	\$631.6	N/A	N/A
<a href="#">Enflame Technology</a>	September 28	Chips	\$291.8	Golden Partners Capital, Guofang Innovation, SIG Property Management, Shanghai Guohe Capital, Shanghai Guoxin Investment, Shanghai International Group	N/A
<a href="#">Neuralink</a>	August 8	Intelligent sensors & devices	\$280.3	Founders Fund	1.5x
<a href="#">Generate Biomedicines</a>	September 6	Drug discovery	\$273.0	Amgen, nVentures, Maps Capital	1.2x
<a href="#">Builder</a>	July 6	Software development	\$250.0	Qatar Investment Authority	N/A
<a href="#">Imbue</a>	September 7	Human resources automation	\$212.0	Astera Institute, Further Future Foundation, Nvidia	N/A
<a href="#">Telexistence</a>	July 6	Industrial robots	\$170.0	KDDI Ventures Program, Airbus Ventures, SoftBank Group	N/A
<a href="#">AI21 Labs</a>	August 31	Foundation models	\$155.0	Pitango Venture Capital, SCB 10X, Samsung NEXT Ventures, Walden Catalyst, b2venture	2.2x
<a href="#">Silo</a>	July 12	Supply chain optimization	\$132.0	First-Citizens Bank & Trust, Koch Disruptive Technologies	N/A

Source: PitchBook • Geography: Global • \*As of September 30, 2023



## VC ACTIVITY

### Top post-seed VC investors in AI & ML companies since 2019\*

Investor name	Deal count	Early-stage VC	Late-stage VC	Venture-growth VC	Investor type
Tiger Global Management	198	54	99	45	Venture Capital
Alumni Ventures	190	99	79	12	Venture Capital
HongShan	176	118	45	13	Venture Capital
Sequoia Capital	160	87	49	24	Venture Capital
Andreessen Horowitz	144	63	55	26	Venture Capital
Accel	134	60	63	11	Venture Capital
Gaingels	130	57	56	17	Venture Capital
GV	129	59	49	21	Corporate Venture Capital
General Catalyst	120	44	55	21	Venture Capital
Intel Capital	120	47	61	12	Corporate Venture Capital

Source: PitchBook • Geography: Global • \*As of September 30, 2023





## SELECT COMPANY HIGHLIGHTS: [DATABRICKS](#)



**Founded**  
2013

**Total raised**  
\$3.5B

**Last financing valuation**  
\$43.5B

**Employees**  
7,756 in 25  
offices globally

**Last financing**  
Raised \$500.0M  
in Series I

**Lead investor(s)**  
Nvidia, T. Rowe Price, Counterpoint  
Global, Franklin Templeton  
Investments, Andreessen  
Horowitz, NEA

**March 2021**  
Leader in Gartner Magic Quadrant for Data  
Science and Machine Learning Platforms

**Exit Predictor**

**IPO probability**  
89%

**M&A probability**  
9%

**No exit probability**  
2%

*Note: Probability data is based on [PitchBook VC Exit Predictor methodology](#).*

## Overview

Founded in 2013, [Databricks](#) offers a data science platform that includes AI-as-a-service (AlaaS) functionality with a suite of data science tools for data engineering, data warehousing, and ML algorithms. The company grew out of the open-source Apache Spark data science community and created an extensible product, called the Unified Data Analytics Platform, that can ingest data from enterprise silos and prepare it for cluster-based computing. Once an effective open-source product was in place, the company moved to a closed-source model and rapidly increased revenue beginning in 2016.

[Databricks](#) now offers a product suite on top of Apache Spark that includes an AI platform called Lakehouse AI, which is optimized for generative AI with data storage, a model training pipeline, and model serving and monitoring; a data lake, which integrates unstructured data in a central database for analytics; and data security. The company has focused on the generative AI opportunity, training a custom LLM called Dolly that can run more efficiently than GPT-4 and achieve competitive results on question-answering tasks. The model is open-source and rapidly grew to 10,000 [GitHub](#) stars. The company invested in AI data preparation startup [Cleanlab](#) and vector database management startup [Neon](#) during Q3, demonstrating the company's continued focused on best-in-class generative AI infrastructure.

# About PitchBook Industry and Technology Research

## Independent, objective, and timely market intel

As the private markets continue to grow in complexity and competition, it's essential for investors to understand the industries, sectors and companies driving the asset class.

Our Industry and Technology Research provides detailed analysis of nascent tech sectors so you can better navigate the changing markets you operate in—and pursue new opportunities with confidence.

©2023 by PitchBook Data, Inc. All rights reserved. No part of this publication may be reproduced in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, and information storage and retrieval systems—without the express written permission of PitchBook Data, Inc. Contents are based on information from sources believed to be reliable, but accuracy and completeness cannot be guaranteed. Nothing herein should be construed as any past, current or future recommendation to buy or sell any security or an offer to sell, or a solicitation of an offer to buy any security. This material does not purport to contain all of the information that a prospective investor may wish to consider and is not to be relied upon as such or used in substitution for the exercise of independent judgment.

## PitchBook Data, Inc.

**John Gabbert** Founder, CEO

**Nizar Tarhuni** Vice President, Institutional Research and Editorial

**Paul Condra** Head of Emerging Technology Research

## Additional research

**Eric Bellomo**  
eric.bellomo@pitchbook.com  
Gaming  
E-Commerce

**Brendan Burke**  
brendan.burke@pitchbook.com  
Internet of Things  
Information Security  
Artificial Intelligence & Machine Learning

**Aaron DeGagne**  
aaron.degagne@pitchbook.com  
Medtech  
Digital Health

**Alex Frederick**  
alex.frederick@pitchbook.com  
Agtech  
Foodtech

**Jonathan Geurkink**  
jonathan.geurkink@pitchbook.com  
Supply Chain Tech  
Mobility Tech

**Kazi Helal**  
kazi.helal@pitchbook.com  
Biopharma  
Pharmatech

**Derek Hernandez**  
derek.hernandez@pitchbook.com  
Enterprise SaaS  
Infrastructure SaaS

**Ali Javaheri**  
ali.javaheri@pitchbook.com  
Emerging Spaces

**Robert Le**  
robert.le@pitchbook.com  
Insurtech  
Crypto

**John MacDonagh**  
john.macdonagh@pitchbook.com  
Carbon & Emissions Tech  
Clean Energy Tech

**Rebecca Springer**  
rebecca.springer@pitchbook.com  
Healthcare Services  
Healthcare IT

**Rudy Yang**  
rudy.yang@pitchbook.com  
Enterprise Fintech  
Retail Fintech