PitchBook

EMERGING TECH RESEARCH

2021 Annual Artificial Intelligence & Machine Learning Report

VC Trends and Industry Overview

Published Q1 2022

Report preview

The full report is available through the PitchBook Platform.

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2021 timeline

NEWS

February 21, 2021
A cohort of 39 global companies establishes the AI Infrastructure Alliance to standardize AI architecture and operating procedures. Horizontal platforms startups lead the alliance and seek to develop a comprehensive alternative to hyperscaler AI platforms.

VC EXIT

June 30, 2021
Information security unicorn **SentinelOne** (NYSE: S) achieves the highest VC exit value we have tracked for a US-based AI & ML vertical applications startup. The company reached a $9.0 billion valuation in its IPO, higher than its infosec competitor **CrowdStrike** (NASDAQ: CRWD) at the same stage. Its product suite stands out in the market for the quality of its ML technology.

VC EXIT

July 29, 2021
Qualtrics announces the acquisition of **Clarabridge** for $1.1 billion, the highest exit value we have tracked in the natural language technology (NLT) subsegment of AI & ML. **Clarabridge** has developed NLP and NLU engines over the past 15 years, applying them to customer feedback data for conversational analytics.

Jan · Feb · Mar · Apr · May · Jun · Jul · Aug · Sept · Oct · Nov · Dec

VC EXIT

April 12, 2021
Microsoft agrees to acquire **Nuance Communications** (NASDAQ: NUAN) for $16.0 billion. **Nuance**'s leadership in conversational AI—particularly for the healthcare market—justified the transaction. **Microsoft** stated that the acquisition will increase its addressable market in healthcare by around $250 billion.

VC EXIT/DEAL

July 27, 2021
AI-as-a-service (AIaaS) unicorn **DataRobot** reaches a post-money valuation of $6.3 billion in its Series G. This round accompanies **DataRobot**'s acquisition of **Algorithmia**, a model management startup with backing from **Microsoft** and **Google**. The acquisition compounds the company's advantage in data scientist user experience.

NEWS

October 11, 2021
Microsoft and **Nvidia** announce their Megatron-Turing Natural Language Generation model, surpassing **OpenAI**'s GPT-3 model in parameters and reporting unmatched accuracy in complex tasks including reasoning, text completion, and natural language inference.

Q4 DEAL COUNT SUMMARY

1,327
total deals

-12.2%
QoQ growth

7.3%
YoY growth

17.9%
YTD growth

Q4 DEAL VALUE SUMMARY

$28.0B
total deal value

1.9%
QoQ growth

54.0%
YoY growth

87.2%
YTD growth

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AI & ML VC ecosystem market map

Click to view interactive market map on the PitchBook platform

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

- AI automation platforms
- AI core
- Natural language technology
- Computer vision

Vertical applications

- Consumer
- Financial services
- Healthcare
- Industrial
- IT
- Transportation

Semiconductors

- Edge AI software
- Intelligent sensors & devices
- Processor design

Autonomous machines

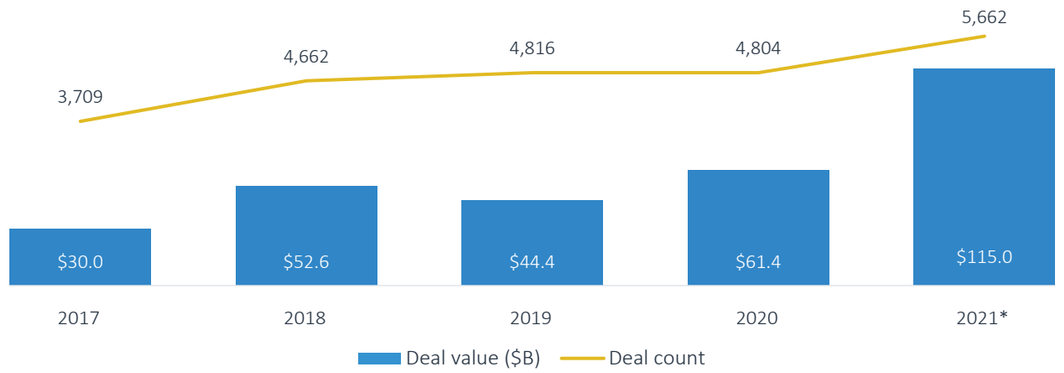
- Autonomous vehicles
- Intelligent robotics

VC activity

AI & ML demonstrated weakness in VC funding relative to technology overall. AI & ML VC deal value grew less robustly than software VC overall, growing only 87.2% from $61.4 billion in 2020 to $115.0 billion YoY. US software VC funding grew 131.1% in 2021, yet median late-stage VC deal size in particular only grew 27.7% to $15.7 million, suggesting muted growth in the volume of high-value VC deals. Deal value in Asia contributed to these muted growth numbers, as we only tracked 62.1% growth in deal value. Some of the hype has departed from pure-play AI companies, as top-performing VC investors dedicated over six times more early-stage and seed deal value to Web3 & decentralized finance (DeFi) than AI & ML in Q3, according to our **Emerging Tech Indicator**. Deal value is led by applications in healthcare, information technology (IT), and consumer, with each category raising over $12 billion in 2021.

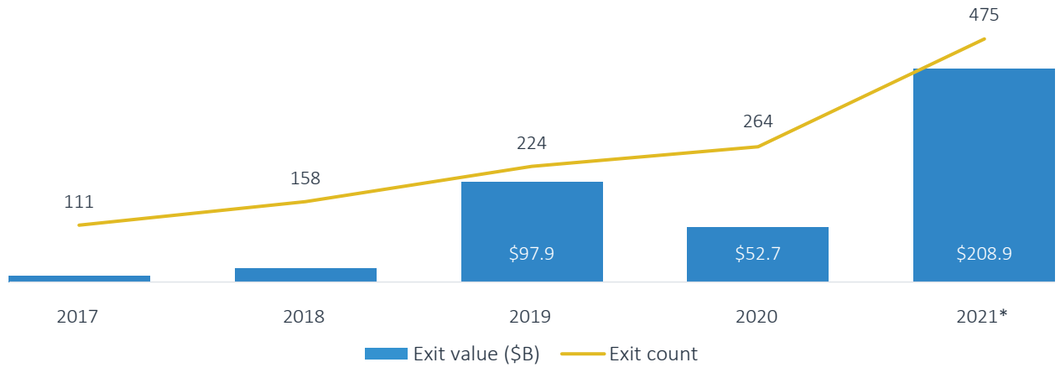
VC exit value swelled during the year, driven by several AI-integrated decacorn exits, though pure-play AI companies did not achieve outstanding outcomes. We tracked $208.9 billion in exit value across 475 exits, a 79.9% increase in exit count YoY. Public exits more than doubled from 33 to 72, following a theme we have been tracking that AI companies are achieving better outcomes in public markets than via M&A. **Kuaishou** and **UIPath** contributed over $80 billion of this total through their IPOs. Autonomous vehicles also contributed over $20 billion in exits with four SPAC exits and two significant IPOs. We tracked 36 mega-exits in 2021 after only 13 in 2021. In Q4, the trend of AI-integrated mega-acquisitions continued with **Rocket**'s $1.6 billion purchase of personal finance startup **Truebill**. We believe that legacy companies will view $1 billion-plus AI acquisitions as ways to modernize their businesses.

Figure 3. AI & ML VC DEAL ACTIVITY



Source: PitchBook | Geography: Global | *As of December 31, 2021

Figure 4. AI & ML VC EXIT ACTIVITY



Source: PitchBook | Geography: Global | *As of December 31, 2021

Segment overview

Horizontal platforms

Startups are unbundling hyperscaler AI model platforms into point solutions for specific steps of the ML development lifecycle.

Verticle applications

Fast-growing AI use cases for startups include hospital administration, fleet management, fraud prevention, sales & marketing, human resources automation, proptech, and personal health.

Semiconductors

Incumbent innovation in server processing is creating barriers to entry for data center startups; edge processing can yield greater growth.

Autonomous machines

Autonomous vehicle development efforts require AIaaS to manage training data and safety.

About PitchBook Emerging Tech 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 Emerging Tech 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.

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