

# The top startups at the forefront of innovation

AI/ML Ecosystem

The GenAl arms race accelerates

April 2024



### GenAl startups accelerate Al development pace

### Key takeaways



- Foundation models show unsurprising domination, as these versatile large models continue to evolve and have demonstrated proven value across numerous use cases.
- In 2023, companies developing foundation models collectively raised over \$21 billion in funding—the highest of any industry in SPEEDA Edge. However, nearly 85% of this funding was concentrated toward big players such as OpenAI and Anthropic.

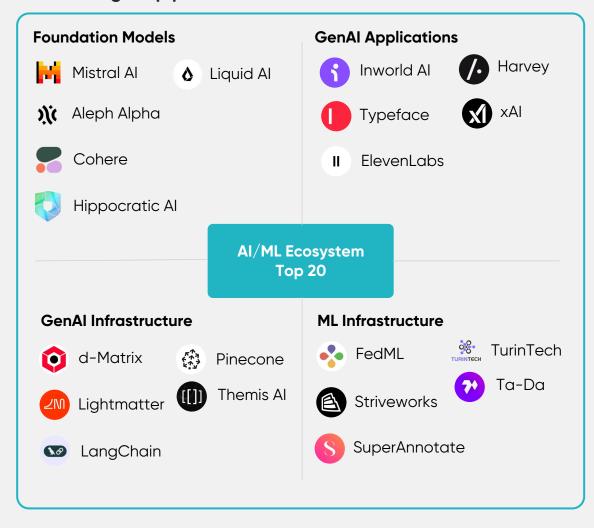


 GenAl hardware players fare well as demand for powerful and efficient hardware skyrockets. Startups developing hardware solutions to tackle the compute challenges associated with GenAl have thrived in this year's top picks. Hardware developers tailored specifically for GenAl workloads such as <u>d-Matrix</u> and <u>Lightmatter</u> accounted for over 40% of all funding in the GenAl infrastructure space.

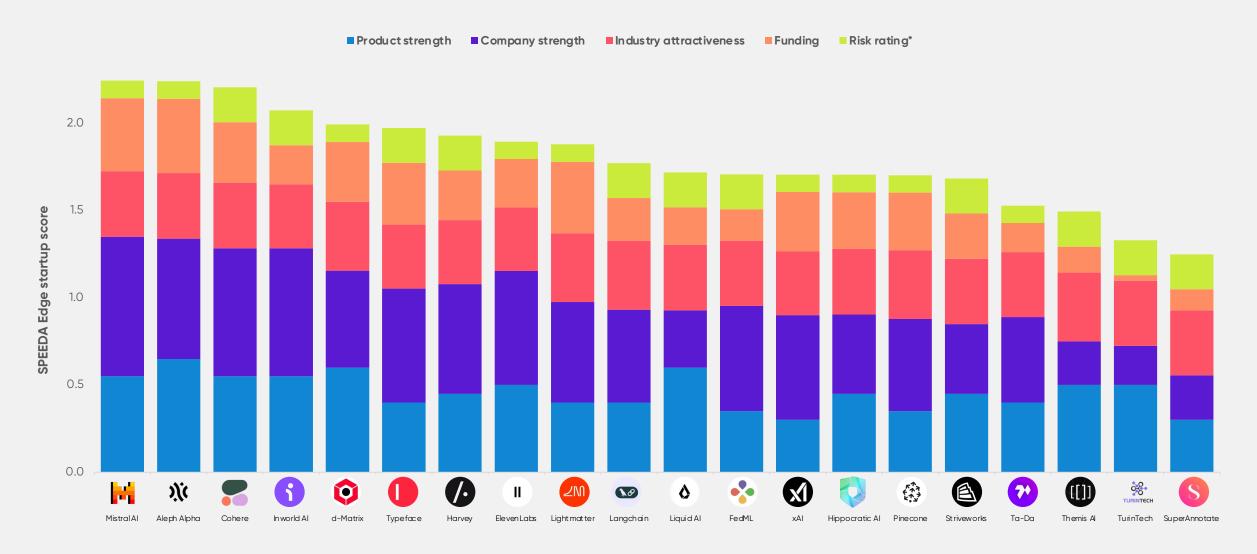


 End-user GenAl applications also made their mark, as startups offering purpose-built applications for specific industry use cases fared better, indicating a shift away from general-purpose chatbots toward more specialized "copilot" solutions tailored to individual sectors.

### SPEEDA Edge top picks for 2024



# How do the top startups measure up?



# AI/ML: The top picks (1/2)

### The top three in focus



### Mistral Al

Developer of open-source and commercial LLMs takes the fight to the big leagues



### Aleph Alpha

Europe's answer to OpenAI, claiming zero carbon emissions for API inference jobs



### Cohere

Maker of LLMs meticulously crafted for enterprise use cases seeks to capitalize on growth

Rank	Company	Industry	Segment	Founded	HQ	Total funding (\$ million)
1	Mistral Al	Foundation Models	Fine-tuned language models	2023	Paris, France	544.0
2	<u>Aleph Alpha</u>	Foundation Models	Large language models, multimodal models	2019	Heidelberg, Germany	642.8
3	Cohere	Foundation Models	Fine-tuned language models	2019	Toronto, Canada	434.9
4	Inworld Al	Generative Al Applications	Entertainment	2021	California, US	125.7
5	<u>d-Matrix</u>	Generative Al Infrastructure	Hardware infrastructure	2019	California, US	154.0
6	<u>Typeface</u>	Generative AI Applications	Marketing content	2022	California, US	165.0
7	<u>Harvey</u>	Generative AI Applications	Business process improvement	2022	California, US	106.0
8	<u>ElevenLabs</u>	Generative Al Applications	Design, publishing, and digital assets	2022	New York, US	101.0
9	<u>Lightmatter</u>	Generative Al Infrastructure	Hardware infrastructure	2017	Massachusetts, US	422.0
10	LangChain	Generative Al Infrastructure	Integrated LLMOps solutions	2022	California, US	35.0

# AI/ML: The top picks (2/2)

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### Other highlights

~\$27 billion

### GenAl Applications

Highest-funded industry in the AI/ML ecosystem



Median funding of the top startup picks in the AI/ML ecosystem

2.5 years Median age of the top startup picks in the AI/ML ecosystem

\*\*\*\*

~\$643 million Aleph Alpha

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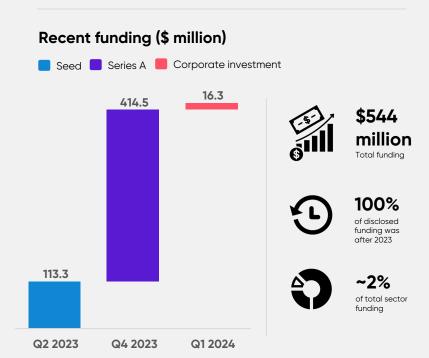
Highest-funded startup among top AI/ML picks

Rank	Company	Industry	Segment	Founded	HQ	Total funding (\$ million)
11	<u>Liquid Al</u>	Foundation Models	Large language models	2023	Massachusetts, US	43.2
12	<u>FedML</u>	Machine Learning Infrastructure	Integrated MLOps solutions	2022	California, US	19.5
13	<u>xAl</u>	Generative AI Applications	Conversational content	2023	Texas, US	134.7
14	<u>Hippocratic AI</u>	Foundation Models	Fine-tuned language models	2022	California, US	118.0
15	<u>Pinecone</u>	Generative Al Infrastructure	Data storage and retrieval	2019	New York, US	138.0
16	<u>Striveworks</u>	Machine Learning Infrastructure	Integrated MLOps solutions	2018	Texas, US	32.3
17	<u>Ta-Da</u>	Machine Learning Infrastructure	Data marketplaces and data annotation platforms	2022	Metz, France	3.5
18	Themis AI	Generative Al Infrastructure	Model monitoring	2021	Massachusetts, US	2.0
19	<u>TurinTech</u>	Machine Learning Infrastructure	Model development and training	2018	London, UK	5.5
20	<u>SuperAnnotate</u>	Machine Learning Infrastructure	Data marketplaces and data annotation platforms	2019	California, US	24.5



# Mistral AI: Young upstart competing in the big leagues











2023 Founded



Paris, France

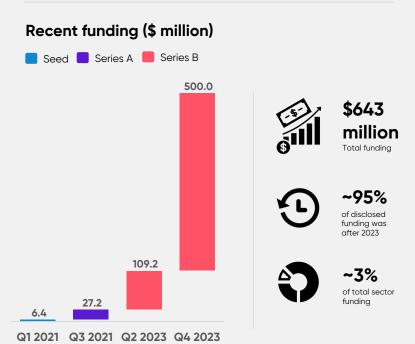
HQ

### **Company snapshot**

- Mistral AI, a newcomer in the GenAI space, has swiftly etched its name among industry giants. With a team of researchers from Google DeepMind and Meta, it has developed LLMs like Mistral 7B and Mixtral 8x7B, outperforming established models on various benchmarks.
- The company is showing no signs of slowing down. Mistral AI launched the Mistral Large LLM—to
  rival the GPT-4—and the "Le Chat" assistant. It has also partnered with Big Techs to deploy and
  distribute its models via their respective cloud platforms.
- Mistral's cap table is the envy of any Al startup, with names like Microsoft, NVIDIA, and Salesforce among the investors contributing to the more than \$540 million raised since last June, which is being used to develop and bring new products to market.

# Aleph Alpha: Powering GenAl with renewable energy







### Foundation Models Industry hub



Large language models, Multimodal models

Segment

**2019** Founded



Heidelberg, Germany

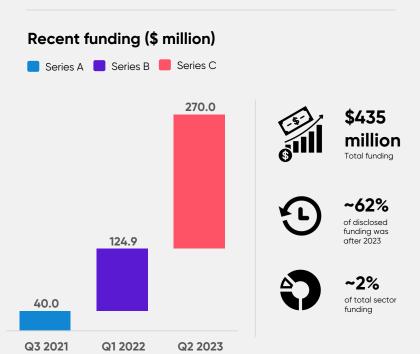
HQ

### **Company snapshot**

- Described as "Europe's answer" to OpenAI, Aleph Alpha develops the Luminous series of transformer LLMs, handling everything from classification to creative writing and supporting multiple input types.
- Powered by renewable energy, Aleph Alpha's API inference jobs have zero CO2 emissions. With 10,000 customers, including enterprises and government agencies, the company focuses on maintaining data sovereignty within Europe, making its LLMs ideal for data-sensitive and highly regulated workloads.
- The company has partnered with industry leaders such as Graphcore and Ipai and recently raised \$500 million in Series B funding from major investors like Bosch, SAP, and Hewlett Packard Enterprise to expand its AI research and commercialization efforts.

# Cohere: Tailor-made LLMs for the enterprise







### Foundation Models Industry hub



Fine-tuned language models

Segment

**2019** Founded



Toronto, Canada

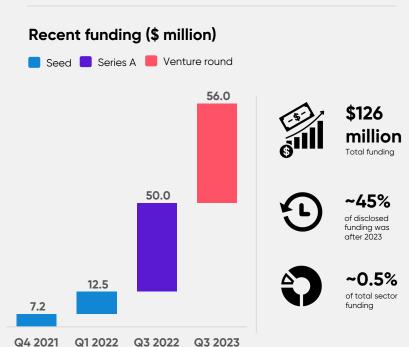
HQ

### **Company snapshot**

- Cohere's specialization lies in developing LLMs meticulously crafted for enterprise use cases and retrieval-augmented generation (RAG) on proprietary data. Its latest marvel, the "Command-R" model, is reportedly outperforming industry heavyweights like Llama-2 70B, Mixtral, and GPT-3.5 Turbo in enterprise RAG tasks.
- Through a partnership with Microsoft, Cohere's Command LLMs are accessible via the Azure Al Model Catalog. Cohere has also joined forces with consulting giants like Accenture and McKinsey to deliver customized GenAl solutions to businesses.
- With over \$430 million already raised from industry titans like NVIDIA, Oracle, and SAP, Cohere is reportedly in talks to raise another \$500 million—\$1 billion. These funds will fuel AI development, team expansion, and bolstered sales efforts.

# Inworld AI: Immersive gaming experiences using GenAI











**2021** Founded



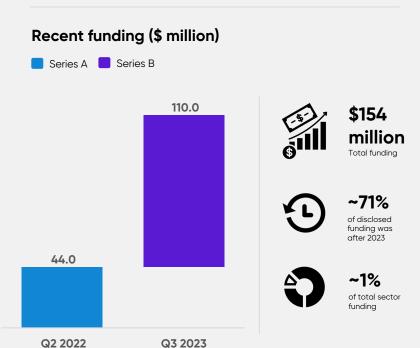
California, US

### **Company snapshot**

- Backed by the venture capital arms of large organizations such as Microsoft, Intel, and LG, Inworld AI is making game development and extended reality more accessible to citizen developers.
- It does this by combining a no-code platform with GenAl and LLMs to create adaptive speech and behavior patterns in Al-powered non-playable characters (NPCs) for games built using popular engines such as Unity and Unreal.
- Inworld is also working with Microsoft to unveil an "Al design copilot" that will enable Xbox developers to create immersive narratives, quests, and dialogues and accelerate game production cycles.

# d-Matrix: Tackling high Al costs with a novel chip design







### **GenAl Infrastructure**Industry hub





**2019** Founded



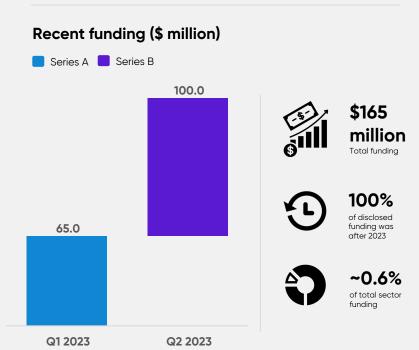
California, US

#### **Company snapshot**

- d-Matrix is revolutionizing AI inference with its innovative Digital In-Memory Compute (DIMC)
  chiplets, bringing fully programmable memory directly onto the chip. This technology drastically
  reduces latency and costs for large-scale GenAI inference.
- The company's flagship Corsair platform, a first-of-its-kind DIMC engine, boasts an impressive 8 TB/s die-to-die interconnect. Corsair promises to deliver up to 20x higher throughput, 20x lower latency, and an astounding 30x better total cost of ownership compared with existing solutions.
- With \$110 million secured from Temasek in its Series B funding round last September, d-Matrix is gearing up to commercialize Corsair, with an anticipated launch in 2024.

# Typeface: Ushering a new wave of personalized marketing











2022 Founded



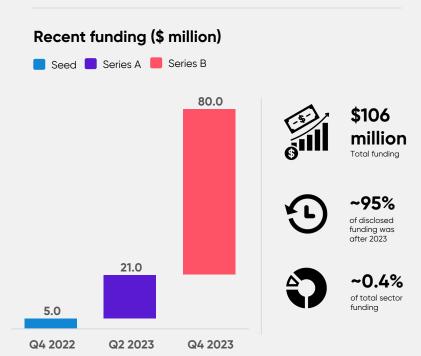
California, US

#### **Company snapshot**

- Typeface is making waves in the marketing world by generating personalized content across text, images, and audio. By combining prompts with branding materials and training unique Al models for each customer, it can be used to create highly targeted, brand-accurate materials.
- Since emerging from stealth last year, Typeface has gained significant traction among Fortune 500 companies. It has launched innovative products like AI co-pilots and natural language search features and acquired TensorTour to enhance its video capabilities.
- Typeface's success attracted a \$100 million Series B round led by Salesforce Ventures, with participation from Google and Microsoft's venture capital arms, propelling it to unicorn status last year.

# Harvey: A co-pilot for the legal profession











2022 Founded



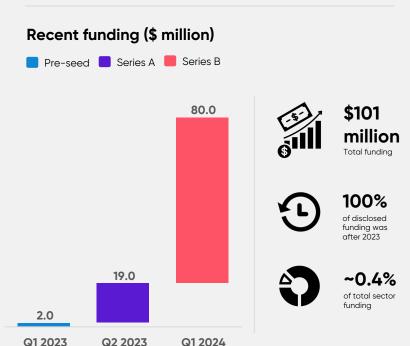
California, US

### **Company snapshot**

- Harvey offers a domain-specific LLM tailored for the legal field that leverages OpenAI's GPT-4
  model and a vast corpus of legal data, including case law and reference materials.
- Akin to onboarding a new employee, Harvey undergoes a training process with each law firm's proprietary work and templates to ensure integration with the firm's unique workflows.
- The company has already garnered traction within the legal industry. Firms such as PwC and Allen & Overy have embraced Harvey, integrating it into their daily operations to enhance efficiency and productivity. Moreover, 15,000 law firms were reported to be on the waitlist last year.

### ElevenLabs: Leveraging GenAl for life-like vocalizations









Design, publishing, and digital assets



**2022** Founded



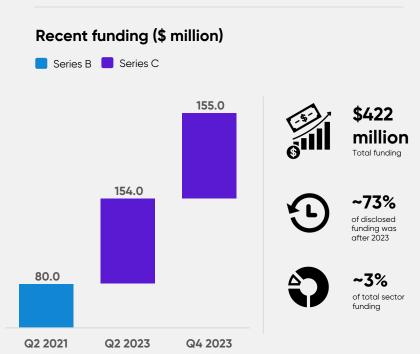
New York, US

#### **Company snapshot**

- ElevenLabs is combining speech synthesis with GenAl. Its technology captures emotional nuances, enabling life-like vocalizations and voice cloning on a multilingual platform.
- With over 100 years of audio generated, ElevenLabs' platform is reportedly being utilized by employees at more than 40% of Fortune 500 companies. The company collaborates with voice actors, educational institutions, and creators, as well as organizations like D-ID and Loccus, to integrate their voices into GenAl platforms and develop ethical standards for Al and voice deepfake detection.
- In January, ElevenLabs achieved unicorn status, with an \$80 million Series B led by Andreessen Horowitz, catapulting its valuation to \$1.1 billion—an 11x increase since last June.

# Lightmatter: Solving the compute problem with light







**GenAl Infrastructure**Industry hub



Hardware infrastructure



**2017** Founded



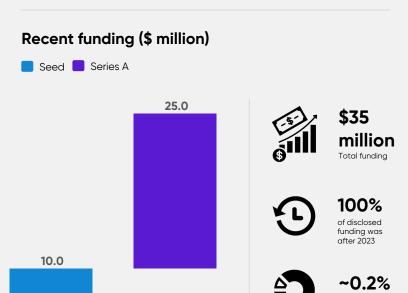
Massachusetts, US

#### **Company snapshot**

- With a fresh \$155 million Series C-2 led by Google's venture capital arm, Lightmatter is gearing up to capitalize on the growing demand for high-performance compute (HPC).
- As traditional processors strain to meet the extremely high compute demands of AI, Lightmatter is disrupting the space with a novel photonic chip. This solution harnesses the power of different light colors to perform multiple calculations simultaneously.
- Lightmatter's Passage, a wafer-scale interconnect device with built-in photonic interconnects, requires no fiber attachments. The result is a solution that is 5x more energy-efficient with a staggering 200x increase in bandwidth, according to the company's claims.

# LangChain: A side hustle turned high-growth startup





of total sector



**GenAl Infrastructure** Industry hub



Integrated LLMOps solutions



2022 Founded



California, US

#### Company snapshot

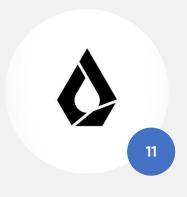
- LangChain empowers developers to harness the full might of LLMs from OpenAI, Anthropic, Cohere, and more. Its framework streamlines the creation of autonomous agents, games, and chatbots, augmented by internal data for tailored solutions.
- What began as a side hustle now powers over 50,000 apps. Since its closed beta launch in July 2023, LangChain has attracted 70,000 users, with 5,000 companies utilizing it monthly.
- LangChain's newest offering, "LangSmith," empowers developers to test and monitor their LLM applications. With several updates in the pipeline, LangSmith is poised to take enterprise LLM administration to unprecedented heights.

Read more and benchmark with peers

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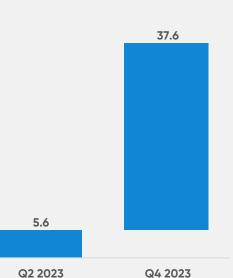
Q1 2023

# Liquid AI: Nature-inspired efficiency for foundation models





Seed





\$43 million



100% of disclosed funding was after 2023



~0.2% of total sector funding



### Foundation Models Industry hub





2023 Founded



Massachusetts, US

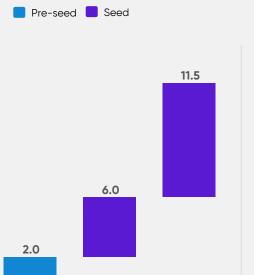
### **Company snapshot**

- Inspired by roundworms' brain fluid dynamics, Liquid Al's novel neural network architecture unlocks a new Al modeling paradigm. Its liquid neural networks perform complex tasks with fewer parameters than giants like GPT while adapting to changing circumstances.
- With \$37.6 million in seed funding, Liquid AI aims to leverage its liquid neural network tech to build foundation models rivaling OpenAI and Anthropic, but with unparalleled efficiency and adaptability.
- Beyond foundation models, Liquid Al plans to open up private Al infrastructure for enterprises, enabling them to build custom models tailored to their specific use cases.

### FedML: A distributed approach to MLOps









million



90% fundina was after 2023



~0.2% of total sector



**ML** Infrastructure Industry hub



2022 Founded



Integrated MLOps solutions



California, US

### **Company snapshot**

- FedML's MLOps platform has gained traction across data-sensitive sectors like healthcare and finance. This surge can be attributed to its open-source federated learning libraries and endto-end ML solutions, enabling secure model training on sensitive and regulated data.
- FedML's "distributed" model fosters collaboration among companies and developers, facilitating the sharing of data, models, and compute resources for machine-learning tasks. Moreover, the company's recent launch of the Nexus Al suite expands its MLOps offerings to cater to growing GenAl use cases.

Read more and benchmark with peers

Q3 2023

Q1 2023

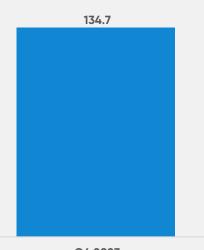
Q1 2022

### xAI: The newest Musk-founded venture on the block



### Recent funding (\$ million)

Venture round





\$135 million



100% of disclosed funding was after 2023



~0.5% of total sector funding

Q4 2023





**Conversational content** 



2023 Founded



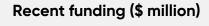
Texas, US

#### **Company snapshot**

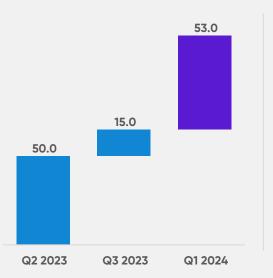
- Elon Musk's xAI, a powerhouse of talent from tech giants like OpenAI, DeepMind, Microsoft Research, and Tesla, offers Grok AI, a chatbot that leverages its proprietary "Grok-1" LLM.
- Grok's edge lies in its seamless integration with X (formerly Twitter), enabling it to tap into realtime information streams. This allows Grok to provide users with up-to-the-minute responses, surpassing the limitations of offline LLMs.
- Available exclusively to premium X subscribers, Grok is backed by xAl's current funding of nearly \$135 million. However, this is merely a fraction of the company's ambitious plans, as reports indicate xAl is eyeing potential funding of up to \$1 billion.

### Hippocratic Al: Compassionate GenAl for healthcare





Seed Series A





\$118 million



100% of disclosed funding was after 2023



~0.5% of total sector funding



### Foundation Models Industry hub



Fine-tuned language models

Segment



2022 Founded



California, US

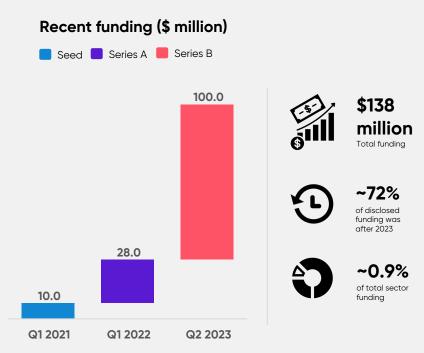
HQ

### **Company snapshot**

- At its core, Hippocratic AI uses reinforcement learning with human feedback for healthcare
  professionals (RLHF-HP), which integrates pre-training on healthcare data with reinforcement
  learning algorithms incorporating human feedback, ensuring accurate and compassionate
  outputs tailored for healthcare.
- Outperforming industry giants like GPT-4, Hippocratic Al's LLM has excelled in over 100 healthcare certifications and exams.
- Actively partnering with leading healthcare organizations to develop and validate its LLMs, Hippocratic AI has released its first product for Phase 3 safety testing, involving rigorous evaluations by over 5,000 nurses and 500 doctors before it's ready for patient interactions.

### Pinecone: Disrupting vector databases in a post-LLM era







GenAl Infrastructure



Data storage and retrieval



2019 Founded



New York, US

### **Company snapshot**

- Pinecone is offering a cloud-native vector database solution that enables developers to build Al applications at scale. Its serverless architecture delivers fast, cost-efficient performance by retrieving only the most relevant data for Al queries.
- As an early mover, Pinecone has garnered an impressive clientele, including Microsoft and CVS Health. Strategic partnerships with tech giants further expand its market reach.
- Investors appear to recognize this, too; Andreessen Horowitz led a \$100 million Series B round of the company last April to support growth and capitalize on opportunities presented by LLMs and GenAl.

### Striveworks: MLOps for data-sensitive workloads



### Recent funding (\$ million)

Venture round





million



100% fundina was after 2023



~0.3% of total sector

Q2 2023



**ML** Infrastructure Industry hub



Integrated MLOps solutions



2018 Founded

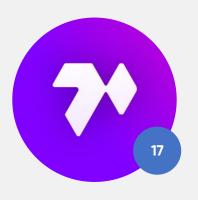


Texas, US

#### **Company snapshot**

- Striveworks' Chariot MLOps platform boasts a patent-pending data lineage system, ensuring models remain fully auditable and reproducible. This technology empowers data owners with complete control over sensitive data, granting Striveworks a competitive edge in highly regulated sectors.
- Through a strategic partnership with Microsoft, Striveworks launched Chariot on Azure last year. That same year, the company reported triple-digit ARR growth between 2021 and 2023. To capitalize on this momentum, the company raised \$33 million in funding in July to expand its sales and marketing teams and platform capabilities.

### Ta-Da: Web3 meets data annotation for Al



### Recent funding (\$ million)

Seed





\$4 million



100% of disclosed funding was after 2023



~0.03% of total sector funding

Q1 2024



ML Infrastructure



**2022** Founded



Data marketplaces and data annotation platforms



Metz, France

HQ

### **Company snapshot**

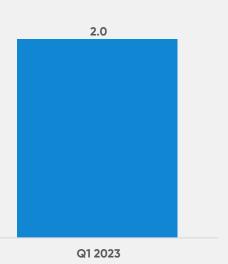
- Ta-Da is bringing about a novel approach to data labeling by gamifying the process. It leverages the power of global crowdsourcing, blockchain technology, and Web3 reward mechanisms to incentivize workers to annotate and validate data per client requirements.
- With 10,000 active users and \$3.5 million in seed funding, the company is strategically expanding operations, investing in marketing, and enhancing its platform. Ta-Da is also allocating resources for security audits to help bolster the integrity of its platform.

### Themis AI: Tackling LLM bias and hallucinations head-on



### Recent funding (\$ million)

Venture round





\$2 million



100% of disclosed funding was after 2023



~0.01% of total sector funding



GenAl Infrastructure



Model monitoring



**2021** Founded



Massachusetts, US

### **Company snapshot**

- Born from MIT's prestigious Computer Science and Artificial Intelligence Laboratory (CSAIL),
  Themis AI is revolutionizing machine learning with its Capsa technology. This proprietary solution
  empowers AI models to recognize their limitations, quantify uncertainties, and ensure reliable
  outputs.
- Capsa's compatibility extends across any model, offering a universal toolkit that can quantify the main types of uncertainty.
- Despite a modest \$2 million in funding, Themis AI is delivering an invaluable resource to address the challenges of trustworthiness, hallucinations, and inherited biases that plague LLMs.

### TurinTech: Automating ML code generation



### Recent funding (\$ million)

4.2



\$6 million Total funding



of disclosed funding was after 2023



~0.04% of total sector funding

Q2 2021



ML Infrastructure



**2018** Founded



Model development and training



London, UK

HQ

### **Company snapshot**

- TurinTech's automated code optimization platform was born from the frustrations of manual ML and code development processes. Using LLMs, users can effortlessly generate and optimize ML-model code, streamlining workflows and enhancing efficiency.
- While investor interest remains elusive for now, TurinTech's solution is gaining traction across industries. From fraud detection and data governance to content mapping and customer complaint management, innovative use cases are emerging. Notably, payments giant Mastercard has embraced this platform, accelerating the creation of ML models and paving the way for wider adoption.

### SuperAnnotate: Al-accelerated data annotation





Series A Venture round
7.0
14.5



\$25 million



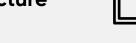
~29% of disclosed funding was after 2023



~0.2% of total sector funding



ML Infrastructure





Data marketplaces and data annotation platforms



**2019** Founded



California, US

HQ

Segment

### **Company snapshot**

- In the era of GenAI, the demand for high-quality, annotated data has skyrocketed. SuperAnnotate's platform harnesses AI acceleration, expediting the annotation process by 10x. This solution caters to diverse industries from agriculture and healthcare to sports and robotics.
- Complementing its AI prowess, SuperAnnotate boasts multilingual service teams, ensuring a blend of human expertise. The platform has gained the trust of over 100 businesses, including industry titans like Samsung, IBM, and Motorola. The company also stealthily secured \$7 million in funding last December.

Read more and benchmark with peers

Q4 2023

Q3 2021



### The scoring methodology

#### Introduction

- Picking companies that show high potential across multiple emerging industries sounds like a simple premise; the reality is anything but.
- Our analysts rigorously screened our coverage universe of nearly 10,000 companies to compile this list. For our analyses, we focused on public and private companies with early-stage products—those that SPEEDA Edge classifies as "seed" and "early."
- Our approach to selecting and ranking companies combines SPEEDA Edge's proprietary estimates, such as total addressable market (TAM), the current actual market, growth rates, and penetration, with quantitative and qualitative company-specific factors, such as funding, company strengths, and product strengths.
- We're aware that statistics alone don't give the full context and that stories can't make good predictions without the data, so we took a hybrid approach to cover all bases.

### **SPEEDA Edge stage classifications**



#### Pre-seed

A conceptual-stage product still testing its business hypothesis



#### Seed

A product with an established proof of concept or minimum viable product that is gaining traction among early adopters



### **Early**

A product that has proven product-market fit, is commercialized, and is generating revenue—although further optimizations may be necessary for long-term viability



### Growth

A product that has gained significant recurring revenue and a sizable customer base and is pursuing large-scale expansion of headcount and geographical presence

### Picking the top industries

• The selection process starts by picking the top industries. The industry scoring framework takes a holistic view of the sector, covering market potential and investor interest in the space. The relevant criteria and rationale are as follows:



### **Growth potential**



### **Maturity**



### **Funding**

#### Relevant criteria

- TAM within the US
- Current US market size estimates, growth rates, and absolute change in market value over the next three years

#### Relevant criteria

Market penetration

### Why does this matter?

 Industries with lower penetration are more likely to exhibit high growth potential

#### Relevant criteria

- Total industry funding and the level of funding concentration
- Recent funding activity

### Why does this matter?

 Funding levels help gauge investor confidence in the industry

### Why does this matter?

 The TAM and the actual market estimates help assess short- and long-term potential for growth and challenges

### Diving into the companies

• Next, we look at the companies that show the most potential in these industries. We look at 1) company-specific factors such as total funding, business model, management team, and outlook; 2) product-related factors such as key differentiators; and 3) risks and obstacles to the company's growth.



### **Funding**



Company strengths



Product strengths



Risks to growth

#### Relevant criteria

 Total funds raised by the company and the share of these funds relative to the rest of the industry

### Why does this matter?

 To look at how much money the company has raised, who the notable investors are, and how it plans to use these funds

#### Relevant criteria

- Business model
- Management team
- Operational presence
- Outlook and likelihood of achievement based on track record

### Why does this matter?

 To take a holistic view of the various companyspecific critical success factors that will contribute to growth

#### Relevant criteria

- Key differentiator
- Product segment growth potential and competitive dynamics
- Key customers and notable product partnerships

### Why does this matter?

 Indicates how well the product is positioned to gain a competitive advantage that cannot easily be replicated

#### Relevant criteria

 Industry-specific (regulatory or technological) and company-specific risks

### Why does this matter?

 To identify any barriers to achieving the potential growth

### SPEEDA EDGE

SPEEDA Edge is an innovation intelligence platform delivered by Uzabase USA, Inc.

We track events daily across more than 150 emerging industries and over 800 industry segments. By combining the expertise of our analysts with robust data engineering, SPEEDA Edge delivers a research tool that provides trend analysis, competitive benchmarking, and tailor-made reporting. This tool revolutionizes the way trends, competitors, and insights are uncovered within a single dynamic platform. SPEEDA Edge accelerates innovation research, facilitating faster decision-making.

Curious to know more about how this research tool can support your work? Talk to us.

Contact us: info@sp-edge.com in





Report by Abdul Azeez, CFA; Jehan Saldin

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