

Disruptive Tech

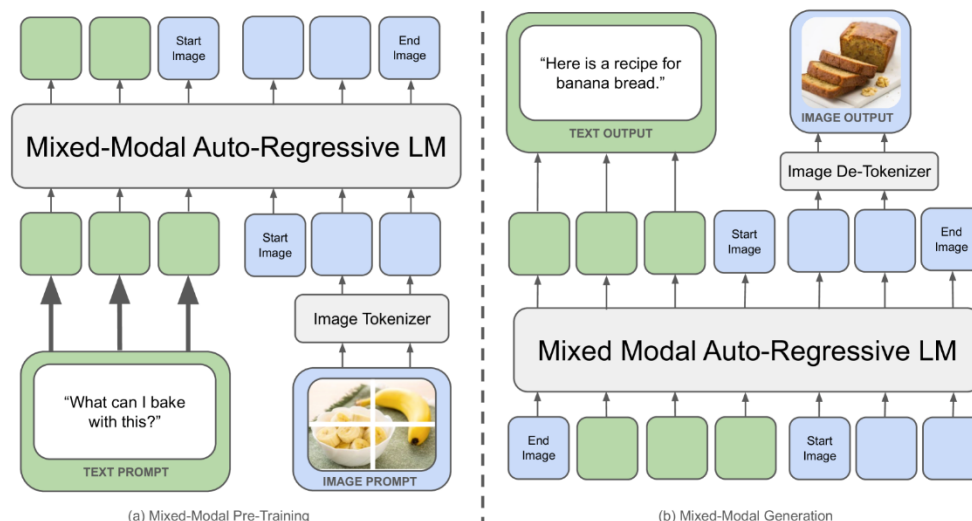
Monthly AI Update

TREND IN FOCUS: CHAMELEON VS. GPT-4o: A NEW ERA OF MULTIMODAL AI RIVALRY

On May 13, OpenAI released GPT-4o, its latest and most powerful AI model to date. The model can process multiple modalities, such as text, audio, and vision, in real-time, with improved performance in about 50 non-English languages. It is twice as fast, half the price, and has higher rate limits than GPT-4 Turbo, its predecessor. The new model will enable real-time, spoken conversations with users and allow for text and “vision” interactions, meaning it can view and discuss screenshots, photos, documents, or charts uploaded by users. Additionally, GPT-4o has memory capabilities, allowing it to learn from previous conversations and perform real-time translation. This update is significant because it makes ChatGPT more accessible and user-friendly, and OpenAI is seeking to stay ahead of the growing competition in the AI “arms race.” The new release comes as rivals such as Google and Meta are also working on powerful large language models for chatbots and other products.

OpenAI's initial vision as a nonprofit was to create AI for the betterment of society, but the company has shifted its focus toward making its advanced models available to developers through paid APIs. Sam Altman, the CEO of OpenAI, acknowledged this in a blog post following the launch event for GPT-4o. This apparent change in direction has led to some observers criticizing it for not open-sourcing the technology. Though OpenAI announced that GPT-4o will be made available free of cost to developers and unpaid users alike, it has not yet been open-sourced. Contrast this with Meta, which has been making all the model weights available free of cost since the very beginning. The company's long-standing strategy has been to open-source general infrastructure, which has helped it recruit some of the best people and build unique product integrations. At the same time, there have been some hints among influencers that Meta may begin to offer some capabilities that are not open-source.

Chart 1: Chameleon Represents all Modalities



Source: Intro-act, [Research Paper](#)

On May 21, Meta released an early glimpse of its latest multimodal AI model, Chameleon, which utilizes an early-fusion token-based architecture to achieve high performance across various multimodal tasks. This groundbreaking model boasts 34 billion parameters and has been trained on an impressive 10 trillion tokens of data, including text, image-text pairs, and sequences containing interleaving text and images. The training covered over 5 million hours using Nvidia A100 80GB GPUs. Chameleon employs a shared vocabulary of texts/code/image tokens, allowing it to

seamlessly reason over and generate interleaved image and text sequences without the need for modality-specific components. According to the researchers, Chameleon achieves state-of-the-art performance on various tasks such as visual question answering and image captioning, while still maintaining competitive performance in text-only tasks with fewer training examples and smaller model sizes, outperforming other models like Flamingo, IDEFICS, or Llava-1.5.

Unlike traditional multimodal models that use separate encoders and decoders for different modalities, Chameleon integrates all inputs into a unified representation space. In pure text tasks, it rivals leading models like GPT-4V and Gemini-Pro. For visual tasks such as image captioning and visual question answering, Chameleon sets new state-of-the-art (SOTA) records, closely matching the performance of specialized models. Despite these achievements, it currently lacks the audio capabilities present in GPT-4o, though Meta plans to address this in future updates.

The launch of Chameleon has sparked discussions about the future of open-source AI models. Meta's transparent approach to releasing detailed research papers contrasts with OpenAI's more guarded release strategies. This openness may drive further advancements in the field, potentially leading to an open-source version of GPT-4o. As Meta continues to refine Chameleon, the AI community eagerly anticipates the model's expanded capabilities and broader applications. In a paper posted on the arXiv preprint server, Meta's team of researchers claimed that Chameleon matches or outperforms larger models like Gemini Pro or GPT-4V, based on certain benchmarks. However, the exact comparative utility remains to be judged, since the model weights are not yet released. GPT-4o reportedly has over one trillion parameters, in contrast with the 34 billion for Chameleon. This undoubtedly will affect the model's performance. As far as the user experience is concerned, Chameleon is not anywhere close to GPT-4o in applications like "video chat with an AI" and "talk to an AI on the phone," use cases demonstrated in the GPT-4o announcement. For an average user, these functionalities are more attractive and relevant for daily usage. At least for now, OpenAI leads this race.

The key takeaway is that Chameleon represents a significant advancement in multimodal AI, challenging the dominance of OpenAI's GPT-4o. With its innovative architecture, extensive training, and transparent development process, Chameleon is poised to set new standards in AI performance and integration. As the field continues to evolve, we can expect to see more powerful and versatile models like Chameleon that push the boundaries of what AI can achieve.

In addition, Google recently announced its own advancements at its I/O 2024 conference. We will have to keep an eye on their offerings as well to determine who is leading in the competition among industry giants.

INDUSTRY TRENDS

The EU's AI rulebook passes its final hurdle. European ministers have unanimously adopted the bloc's AI Act, which is set to be published in the EU's Official Journal in the coming days. The law will take effect 20 days after publication, where compliance deadlines will be staggered — starting at six months for AI systems that pose "unacceptable risk," up to the end of 2030 for AI components of large-scale IT systems. [Read More.](#) (*The Verge*)

Gen AI safety problems force enterprises to upgrade AI audit measures. The steady drumbeat of big mistakes by customer support AI agents, for example from big names like Chevrolet, Air Canada, and even New York City, has brought a renewed focus on the need for more reliability. If you're an enterprise decision-maker involved in building generative AI apps and strategies and you are having a hard time keeping up with the latest chatbot technology, and how to keep it accountable, you should apply to attend this exclusive AI event in New York on June 5 about the "AI Audit." [Read More.](#) (*VentureBeat*)

RSAC 2024 reveals the impact AI is having on strengthening cybersecurity infrastructure. Quickly progressing from first-generation chatbots to an essential ingredient of the high-octane fuel that's running hyper scalers and cybersecurity platforms, AI's dominance at RASC 2024 proves it is the DNA of cybersecurity. RSAC's theme of "the art of the possible" sums up how cybersecurity vendors are looking to capitalize on the inherent strengths of the technology. There's a strong focus across all vendors offering platform-level AI support for everything from automating

security operations center (SOC) workflows to predicting threats, to deciphering data pointing to inside threats. [Read More.](#) (VentureBeat)

Nvidia GPUs will ship in Copilot Plus PCs in “the coming months.” Nvidia GPUs will ship in Copilot Plus PCs in “the coming months.” Microsoft mentioned that in addition to all the Snapdragon-powered PCs that have been announced, we will also see those AI PC experiences ship in computers powered by Intel, AMD, and Nvidia as well. Now, Nvidia suggests it won't be a long wait. [Read More.](#) (The Verge)

What's next: Microsoft Build continues the evolution and expansion of AI tools for developers. Groundbreaking advances in AI are having a profound impact on Microsoft and on the developers using technology to improve efficiency, enhance customer experiences, and make new breakthroughs. Over the past year, they have built Microsoft Copilot and released more than 150 updates to it, and developed the Copilot stack, which takes everything learned so far and lets developers build their own copilots. In addition, over the past two years, GitHub Copilot has become the most widely adopted AI developer tool, with 1.8 million paid subscribers. [Read More.](#) (The Official Microsoft Blog)

UK's autonomous vehicle legislation becomes law, paving the way for the first driverless cars by 2026. The U.K.'s self-proclaimed “world-leading” regulations for self-driving cars are now official after the Automated Vehicles (AV) Act received royal assent — the final rubber stamp any legislation must go through before becoming enshrined in law. The government says that fully self-driving vehicles could be on U.K. roads within two years. [Read More.](#) (TechCrunch)

Artificial intelligence black boxes just got a little less mysterious. One of the weirder, more unnerving things about today's leading artificial intelligence (AI) systems is that nobody — not even the people who build them — really knows how the systems work. That's because large language models, the type of AI systems that power ChatGPT and other popular chatbots, are not programmed line by line by human engineers, as conventional computer programs are. Instead, these systems essentially learn on their own, by ingesting massive amounts of data and identifying patterns and relationships in language, then using that knowledge to predict the next words in a sequence. Recently, they have begun to reveal some of their secrets. [Read More](#) (Business Standard)

Google I/O 2024: What to expect. Developer season has officially commenced, and Google I/O 2024 kicked off in Mountain View's Shoreline Amphitheatre. The short answer to the question of what to expect is two letters: AI. Google I/O? More like Google A/I. There's been an element of artificial intelligence/machine learning in almost every Google announcement for the past several years. [Read More.](#) (TechCrunch)

AI startup Tenyx's fine-tuned open-source Llama 3 model outperforms GPT-4. In an exclusive interview with VentureBeat, Itamar Arel, founder and CEO of AI startup Tenyx, revealed a groundbreaking achievement in the field of natural language processing. Tenyx has successfully fine-tuned Meta's open-source Llama-3 language model (now known as Tenyx-70B) to outperform OpenAI's GPT-4 in certain domains, marking the first time an open-source model has surpassed the proprietary gold standard. “We developed this fine-tuning technology that allows us to take a foundational model and sort of polish it or train it beyond what it was trained on,” Arel explained. [Read More.](#) (VentureBeat)

Tech's new arms race: The billion-dollar battle to build better AI. During testing, a recently released large language model (LLM) appeared to recognize that it was being evaluated and commented on the relevance of the information it was processing. This led to speculation that this response could be an example of metacognition, an understanding of one's own thought processes. While this recent LLM sparked conversation about AI's potential for self-awareness, the true story lies in the model's sheer power, providing an example of new capabilities that occur as LLMs become larger. [Read More.](#) (VentureBeat)

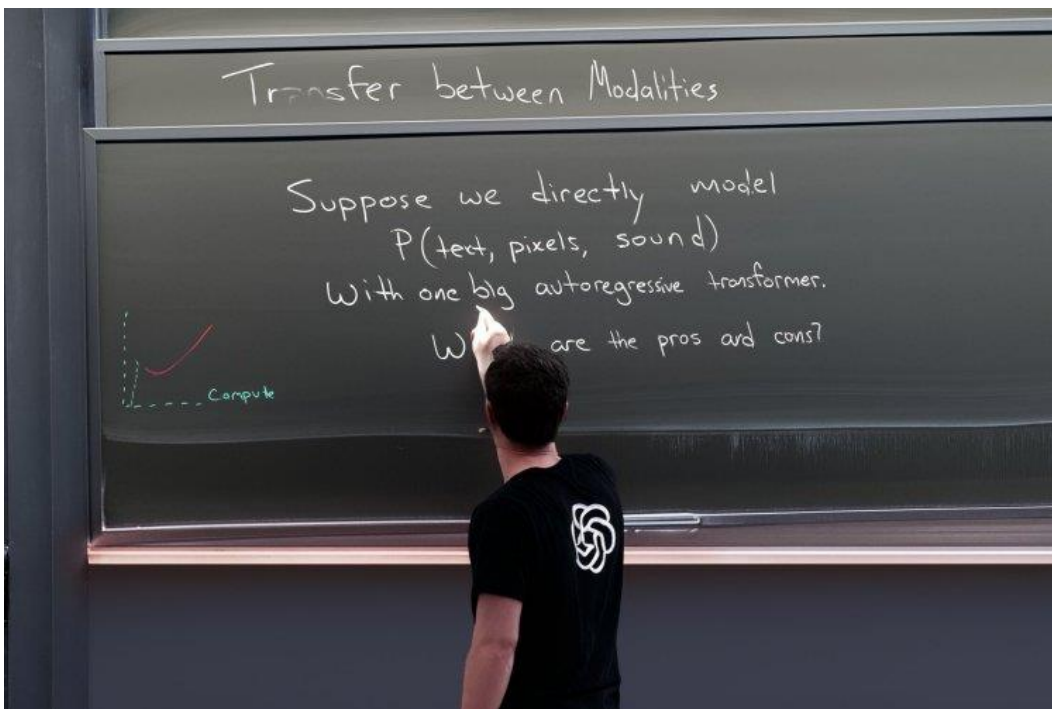
Microsoft's new rRecall for Copilot+PCs was criticized as spyware. Microsoft hosted its annual developer conference Build from the Seattle Convention Center, and amid the flurry of AI-related announcements from the valuable software company, one has struck a false note among many tech industry followers on X (formerly Twitter). The Recall feature records a user's screen activities in a way that struck some observers as being a form of spyware. Recall was part of the introduction of new Microsoft Copilot+PCs — laptops and desktop computers outfitted with a

version of Microsoft Windows that contains its AI assistant Copilot baked into the fabric of the operating system itself. [Read More.](#) (VentureBeat)

Sam Altman drops tiny GPT-5 hints. It's clear that OpenAI Sam Altman did not attend Microsoft Build to announce a new model, but he's happy to tease that the next big one is on the way. Microsoft built an even bigger supercomputer for this work, and now Altman hints that new modalities and overall intelligence will be key to OpenAI's next model. "The most important thing, and it sounds like the most boring thing I can say, the models are just going to get smarter, generally across the board," says Altman. [Read More.](#) (The Verge)

ChatGPT's mobile app revenue saw its biggest spike yet following the GPT-4o launch. Consumer demand for the latest AI technology is heating up. The launch of OpenAI's latest flagship model, GPT-4o, has now driven the company's biggest-ever spike in revenue on mobile, despite the model being freely available on the Web. GPT-4o, which launched on May 13, can handle text, speech, and video, and delivers real-time responsiveness and a range of emotive voice options, making it a far more powerful model than what was offered before. [Read More.](#) (TechCrunch)

Chart 2: First Image by GPT-4o



Source: Intro-act, [VentureBeat](#)

From sci-fi to reality: The dawn of emotionally intelligent AI. Sometimes it feels as if the world suddenly jumps forward in unexpected ways. Certainly, that's what it felt like 18 months ago when OpenAI first released ChatGPT. According to a study from UBS, ChatGPT grew to more than 100 million users in the first two months of its release, making it the fastest-growing consumer application in history. At the time, there was a palpable sense that something dramatic was happening. Then the world careened from fascination and excitement to fear and anxiety about the potential for imminent extermination from rogue AIs. Where do we go from here? [Read More.](#) (VentureBeat)

Why Microsoft is still ahead of Google in the war for AI developers. In a cheeky nod to last year's viral video featuring a montage of every utterance of the word "AI" during the Google I/O keynotes, CEO Sundar Pichai decided to turn the tables. As he brought this year's keynote to a close, Pichai couldn't resist the temptation to showcase the capabilities of Google's latest Gemini AI model. With a glimmer of amusement in his eyes, he fed the entire transcript of the keynote into Gemini's eager algorithms, challenging it to count the number of times "AI" appeared. The result? Well, 120 mentions are a testament to Google's unwavering commitment to AI. [Read More.](#) (VentureBeat)

Meet the Magnificent Six: A tour of the stages at Disrupt 2024. TechCrunch Disrupt has always been the ultimate convergence point for all things startup and tech. In the bustling world of innovation, it serves as the “big top” tent, where entrepreneurs, tech enthusiasts, and industry leaders gather to witness the unveiling of groundbreaking technologies, engage in thought-provoking discussions, and forge invaluable connections. As we gear up for the highly anticipated event this October, let's take a sneak peek into the six stages at the event that will define the discourse and shape the future of technology and entrepreneurship. [Read More.](#) (TechCrunch)

ChatGPT now lets you import files directly from Google Drive and Microsoft OneDrive. The news from OpenAI continues; the company announced it has updated its signature large language model (LLM) chatbot ChatGPT with the capability to import files directly from external cloud drives Google Drive and Microsoft OneDrive. The capability is coming to paying subscribers with ChatGPT Plus, Team, and Enterprise users and will be available when using the new underlying GPT-4o model, as well as older models. [Read More.](#) (VentureBeat)

DEVELOPMENTS IN AI

Microsoft wants to make Windows an AI operating system and launch Copilot+ PCs. Microsoft wants to bring generative AI to the forefront of Windows — and the PCs running it. At a pair of keynotes during its annual Build developer conference, the company unveiled a new lineup of Windows machines it's calling Copilot+ PCs, plus generative AI-powered features like Recall, which helps users find apps, files, and other content they've viewed in the past. Copilot, Microsoft's brand of generative AI, will soon be far more deeply integrated into the Windows 11 experience. And new Microsoft Surface devices are on the way. [Read More.](#) (TechCrunch)

Inside Microsoft's mission to take down the MacBook Air. Microsoft is confident that it finally nailed the transition to Arm chips — so confident that, this time around, the company spent an entire day pitting its new hardware against the MacBook Air. On a recent morning at its headquarters in Redmond, Washington, Microsoft representatives set out new Surface devices equipped with Qualcomm's Snapdragon X Elite chips inside and compared them directly to Apple's category-leading laptop. [Read More.](#) (The Verge)

Google launches “Model Explorer,” an open-source tool for seamless AI model visualization and debugging. As artificial intelligence models grow ever more complex, the challenge of understanding their inner workings has become a pressing concern for researchers and engineers alike. Google's latest offering, an open-source tool called Model Explorer, promises to shed light on the opaque depths of these systems, potentially ushering in a new era of AI transparency and accountability. Announced on Google's AI research blog, Model Explorer represents a significant step forward in the field of machine learning visualization. [Read More.](#) (VentureBeat)

Nvidia launches tech update for ChatRTX AI chat. A new update for ChatRTX, Nvidia's visual computing platform that offers real-time, cinematic-quality rendering to game developers, is available for download. The update expands the tech demo's capabilities and supports LLM models for RTX-enabled AI applications. First announced and shown off at GTC 2024 earlier in March, the update adds several new capabilities. ChatRTX now has a bigger list of supported LLMs, including Gemma, Google's latest LLM, and ChatGLM3, an open, bilingual (English and Chinese) LLM, providing users with additional flexibility. New photo support enables ChatRTX users to easily search and interact locally with their own photo data without the need for complex metadata labeling, thanks to OpenAI's Contrastive Language-Image Pre-training (CLIP). [Read More.](#) (VentureBeat)

How to use Google Search without AI: the “udm=14” workaround. It's hard to conceive, given how popular and entrenched in modern society it is, but the Google Search of today is very different from the same product even just a few years back. The most obvious change in recent times has been the addition of generative AI search results, also known as “AI Overview.” Formerly an experimental option called “Search Generative Experience” that users had to elect through Google Labs, the addition of these results — generated from whole cloth every time you search using Google's Gemini AI models — seek to summarize and pull out the most relevant and important information based on your search query. This new feature has a few problems, though, providing absurd answers to some users' queries. For example, it has suggested using a non-toxic glue to keep cheese from sliding off of a pizza. [Read More.](#) (VentureBeat)

Acer announces the Swift 14 AI laptop, its first Copilot+ PC. Acer announces its first Copilot+ PC, the Swift 14 AI Laptop, which is powered by Qualcomm's Snapdragon X Series processors and Microsoft's Windows 11. The

company sees these tech innovations as ushering in a new AI era for personal computing. The laptop comes in a thin-and-light aluminum chassis design, and it has a range of optimized AI features to support enhanced productivity and mobility. [Read More.](#) (VentureBeat)

Developers can bring their own models to Qualcomm's AI Hub. With the impending rise of AI PCs, Qualcomm wants to help developers get ahead of the game. The company is releasing an update to its AI Hub that will support the Snapdragon X processor series. App builders can now tap into Qualcomm's newest chips that power on-device AI, optimizing their programs to work efficiently on the next generation of Windows computers and laptops. In addition, the Qualcomm AI Hub is opening up to more models. When it debuted in February, it had 75 pre-trained models. [Read More.](#) (VentureBeat)

HP debuts Qualcomm-based laptops/PCs to usher in the personalized AI era. HP unveiled a new class of AI PCs at Microsoft's AI Vision Event designed to empower people to work and create more meaningfully. HP said the way we live and work is no longer confined to a desk; we are creating at home, from the office, and everywhere in between. At the same time, AI is rapidly changing everything, including consumer and professional expectations for productivity and creativity. More than half of early tech adopters believe AI will save them time, and 72% of business leaders believe AI will help employees focus on more productive work, HP said. [Read More.](#) (VentureBeat)

Chart 3: HP EliteBook Ultra G1q AI



Source: Intro-Act, VentureBeat

Alembic debuts hallucination-free AI for enterprise data analysis and decision support. Artificial intelligence startup Alembic announced it has developed a new AI system that it claims completely eliminates the generation of false information that plagues other AI technologies, a problem known as “hallucinations.” In an interview with *VentureBeat*, Alembic co-founder and CEO Tomás Puig revealed that the company is introducing the new AI in a keynote presentation at the Forrester B2B Summit and will present at the Gartner CMO Symposium in London. [Read More.](#) (VentureBeat)

Google debuts Gemini 1.5 Flash, a fast multimodal model. Google is announcing the release of Gemini 1.5 Flash, a small multimodal model built for scale and tackling narrow high-frequency tasks. It has a one million token context window and is available in public preview through the Gemini API within Google AI Studio. However, that's not the only Gemini news. Gemini 1.5 Pro, which debuted in February, is receiving an enlarged context window, expanding

to two million tokens from one million. Developers interested in this update will have to sign up for the waitlist. (VentureBeat)

NinjaTech launches autonomous AI agents powered by AWS chips. NinjaTech AI, a Silicon Valley-based generative AI company, has announced the public beta launch of its new AI agent service Ninja AI, a web application designed to act as a researcher, software engineer, scheduler/secretary, and more. Users can try it out themselves now at myninja.ai. The service operates a free tier and paid subscriptions. [Read More.](#) (VentureBeat)

AMD launches Epyc 4004 Series processors for enterprises. Advanced Micro Devices announced the availability of the AMD EPYC 4004 Series processors for the enterprise. These new chips complement the existing AMD Epyc server CPU portfolio with new cost-optimized offerings that deliver enterprise-class features and leadership performance for small and medium businesses and hosted IT service providers. The AMD Epyc 4004 Series CPUs are said to provide the price-conscious buyer with enterprise-grade performance, dependability, scalability, and modern security features powered by the highly efficient Zen 4 architecture, AMD said. [Read More.](#) (VentureBeat)

Chart 4: AMD has a New Set of Epyc Processors for the Enterprise



Source: Intro-Act, VentureBeat

GitHub Copilot Extensions brings third-party apps into the coding environment. Microsoft is introducing GitHub Copilot Extensions, a way to connect preferred third-party tools and services without leaving the coding environment or GitHub's website. Using GitHub Copilot Chat, developers can prompt supported apps to perform actions, get additional context, generate files and pull requests, and more. Among the first services to be integrated include GitHub Copilot for Azure, DataStax, Docker, LambdaTest, LaunchDarkly, McKinsey & Company, Microsoft Azure and Teams. Also included will be MongoDB, Octopus Deploy, Pangea, Pinecone, Product Science, ReadMe, Sentry, and Stripe. GitHub Copilot Extensions is currently available in private preview. [Read More.](#) (VentureBeat)

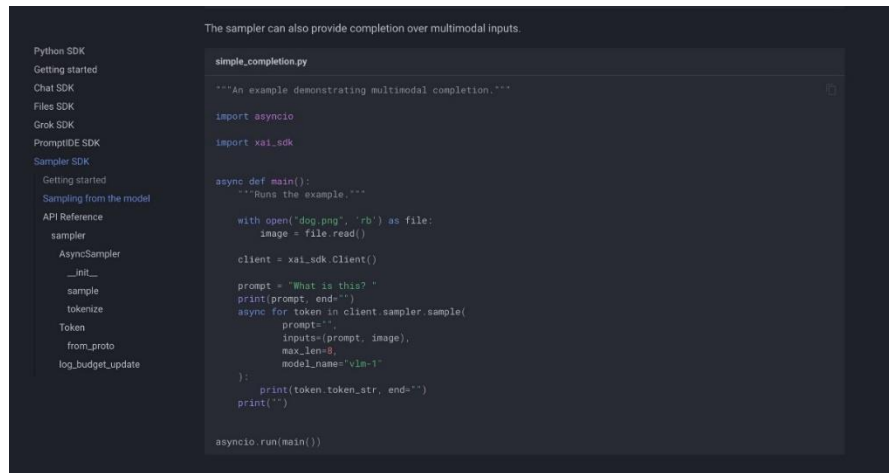
Microsoft Edge will translate and dub YouTube videos as you're watching them. Microsoft Edge will soon offer real-time video translation on sites like YouTube, LinkedIn, Coursera, and more. As part of this year's Build event, Microsoft announced that the new AI-powered feature will be able to translate spoken content through both dubbing and subtitles live as you're watching it. So far, the feature supports the translation of Spanish into English as well as the translation of English to German, Hindi, Italian, Russian, and Spanish. [Read More.](#) (The Verge)

Microsoft upgrades its AI app-building platforms. Microsoft's big focus at this year's Build conference is generative AI. To that end, the tech giant announced a series of updates to its platforms for building generative AI-powered apps and experiences: Azure AI Studio and Copilot Studio. Azure AI Studio is a toolset within Microsoft's Azure OpenAI

Service that lets customers combine an AI model like OpenAI's recently announced GPT-4o with their own data and build a chat assistant or another type of app that "reasons over" that data. [Read More.](#) (TechCrunch)

Elon Musk's xAI is working on making Grok multimodal. Elon Musk's AI company, xAI, is making progress on adding multimodal inputs to its Grok chatbot, according to public developer documents. What this means is that, soon, users may be able to upload photos to Grok and receive text-based answers. This was first teased in a blog post last month from xAI that said Grok-1.5V will offer "multimodal models in a number of domains." The latest update to the developer documents appears to show progress on shipping a new model. [Read More.](#) (The Verge)

Chart 5: xAI



Source: Intro-act, TechCrunch

Microsoft brings out a small language model that can look at pictures. Microsoft announced a new version of its small language model, Phi-3, which can look at images and tell you what's in them. Phi-3-vision is a multimodal model — aka it can read both text and images — and is best used on mobile devices. Microsoft says Phi-3-vision, now available on preview, is a 4.2 billion parameter model (parameters refer to how complex a model is and how much of its training it understands) that can do general visual reasoning tasks like asking questions about charts or images. [Read More.](#) (The Verge)

Pinecone launches its serverless vector database out of preview. Pinecone, the vector database startup founded by Edo Liberty, the former head of Amazon's AI Labs, has long been at the forefront of helping businesses augment large language models (LLMs) with their own data. Most recently, though, the company completely rearchitected its product to launch Pinecone Serverless, which frees its customers from having to think about managing their deployments and scaling them. Pinecone serverless comes out of beta and is now generally available. [Read More.](#) (TechCrunch)

Unistellar launches Kickstarter for smart binoculars to view the night sky. Unistellar, the maker of user-friendly smart telescopes, is launching a Kickstarter campaign to launch its Envision smart binoculars, which you can use to view the night sky. Unistellar started out with a Kickstarter campaign in 2017 for its AI-based eVScope telescope that allowed people to view the night sky even in an area of higher light pollution, like a city. It raised \$2.2 million and went on to be a hit. Now the company is returning to the crowdfunding platform with a different kind of product. [Read More.](#) (VentureBeat)

Nvidia's DrEureka outperforms humans in training robotics systems. Large language models (LLMs) can accelerate the training of robotics systems in superhuman ways, according to a new study by scientists at Nvidia, the University of Pennsylvania, and the University of Texas, Austin. The study introduces DrEureka, a technique that can automatically create reward functions and randomization distributions for robotics systems. DrEureka stands for Domain Randomization Eureka. DrEureka only requires a high-level description of the target task and is faster and

more efficient than human-designed rewards in transferring learned policies from simulated environments to the real world. [Read More.](#) (VentureBeat)

Researchers Develop Bio-based Resins for Recyclable 3D Printing. Researchers at the University of Birmingham have developed a recyclable resin from bio-sourced materials for 3D printing. This resin allows high-resolution 3D printed structures to be produced and recycled within an almost fully closed-loop system. Unlike traditional photopolymer resins made from petrochemicals, which are challenging to recycle due to irreversible bonds, this new resin can be broken down and reprinted with minimal additives. [Read More.](#) (3D Printing)

Chart 6: Recyclable Resin Benchy



Source: Intro-act, 3DPrinting

Jolla debuts privacy-focused AI hardware. Jolla has taken the official wraps off the first version of its personal server-based AI assistant in the making. The reborn startup is building a privacy-focused AI device — aka the Jolla Mind2, which TechCrunch exclusively revealed at MWC back in February. At a live-streamed launch event, it also kicked off preorders, with the first units slated to ship later this year in Europe. [Read More.](#) (TechCrunch)

Intel's going inside AI PCs, too — its Lunar Lake chip is coming later this year. Intel has revealed a release window for its Lunar Lake laptop processors. The new x86 chips will arrive in the third quarter of this year, and they're designed to enable the new AI experience in Copilot Plus PCs. Intel's announcement coincides with Microsoft's Surface and AI event, where Microsoft leaned on Qualcomm's Snapdragon X Elite and Plus chips for Copilot Plus PCs that promise high performance and longer battery life. [Read More.](#) (The Verge)

Ideogram Pro launches with 12K fast AI image generation monthly. While the big AI model providers such as Adobe and Meta continue to upgrade their AI image generation offerings, the smaller, dedicated startups are also adding new features in a bid to stay competitive. One of those smaller startups — Ideogram, based in Toronto, Canada, and founded by former Google Brain researchers — has announced a new Pro paid subscription tier catered toward its "most active creators" and "professional creators." [Read More.](#) (VentureBeat)

Ampere teams up with Qualcomm to launch an Arm-based AI server. Ampere and Qualcomm aren't the most obvious of partners. Both, after all, offer Arm-based chips for running data center servers (though Qualcomm's largest market remains mobile). But as the two companies announced, they are now combining forces to offer an AI-focused server that uses Ampere's CPUs and Qualcomm's Cloud AI 100 Ultra AI inferencing chips for running — not training — models. [Read More.](#) (TechCrunch)

Vivobarefoot Introduces 3D Printed Hybrid Wing Shoes. Vivobarefoot has launched the Hybrid Wing, a limited edition shoe employing a 3D printed design for a custom fit. Users scan their feet via smartphone, adjusting length and width with an online visualizer. The shoes are then 3D printed and delivered within six weeks to four months, promoting waste reduction by producing only as needed. The Hybrid Wing aligns with the growing trend in outdoor gear toward sustainable 3D printing. Its circular knitting process creates a seamless 3D foot shape for the shoe's upper, minimizing material waste. [Read More.](#) (3D Printing)

Chart 7: 3D Printed Hybrid Wing Shoes



Source: Intro-act, 3DPrinting

Google adds Gemini to its Education suite. Google introduced a ton of new Gemini-related products at its Google I/O developer conference recently, and its Education suite is also getting an AI boost. The company is launching a Gemini add-on for educational institutes through Google Workspace. There's a base plan called Gemini Education that's available in English for educators and students over 18, which lets users tap Gemini in Docs, Sheets, Slides, and Meet, and chat with the AI. [Read More.](#) (TechCrunch)

Nvidia and Alphabet's Intrinsic aim to revolutionize next-gen robotics. Nvidia and Alphabet's Intrinsic have teamed up to show off advancements in robotic grasping and industrial scalability. The companies said that the landscape of robotics will further change with the integration of new AI and platform technologies. At the Automate trade show in Chicago, Intrinsic is unveiled advances in grasping and scalability, powered by Nvidia's Isaac Manipulator and AI capabilities. [Read More.](#) (VentureBeat)

Aurora supercomputer breaks exascale computing threshold. The Argonne National Laboratory's Aurora supercomputer has officially passed the exascale computing barrier. Developed by Intel and Hewlett Packard Enterprise (HPE), Aurora's exascale achievement marks a significant milestone for the supercomputer's development. In the latest submission to the semi-annual list of the world's most powerful supercomputers, announced at the ISC High Performance 2024 conference in Hamburg, Germany, Aurora was shown to perform over a quintillion calculations per second. [Read More.](#) (Innovation News Network)

Google is bringing Gemini capabilities to the Google Maps Platform. Gemini model capabilities are coming to the Google Maps Platform for developers, starting with the Places API, the company announced at the Google I/O 2024 conference. With this new capability, developers will be able to show generative AI summaries of places and areas in their own apps and websites. The summaries are created based on Gemini's analysis of insights from Google Maps'

community of more than 300 million contributors. With this new capability, developers will no longer have to write their own custom descriptions of places. [Read More.](#) (TechCrunch)

Microsoft Unveils Modular Controller for People with Disabilities. In a bid to enhance inclusivity in gaming, Microsoft has unveiled the Proteus wireless game controller, developed in partnership with ByoWave. The new device offers a modular design, empowering users with disabilities to customize their gaming experience according to their unique needs. With an array of replaceable faceplates equipped with buttons, a trackpad, and analog sticks, the Proteus controller enables over 100 different configurations, ensuring optimal comfort and functionality for diverse user preferences. [Read More.](#) (3D Printing)

Chart 8: Modular Controller: The Proteus Can be Configured in a Variety of Combinations



Source: Intro-act, 3DPrinting

Mojo Rising: The resurgence of AI-first programming languages. Blink, and you might just miss the invention of yet another programming language. The old joke goes that programmers spend 20% of their time coding and 80% of their time deciding what language to use. In fact, there are so many programming languages out there that we are not sure how many we actually have. It's probably safe to say that there are at least 700 programming languages lingering in various states of use and misuse. There is always room for more improvement, it seems. As AI keeps pushing the envelope, it's also pushing the limits of our most popular programming languages, Java, C, and Python. [Read More.](#) (VentureBeat)

CrowdStrike launches advanced SIEM to power the AI-native SOC at RSAC 2024. With attackers setting speed records for breakouts and tool download times, every security operations center (SOC) team needs to consider how AI can help bend time in their favor. It takes just two minutes and seven seconds to move laterally within a system after gaining access, and just 31 seconds for an attacker to download a toolkit and start reconnaissance operations on a compromised system. (These figures are from George Kurtz, president, CEO, and co-founder of CrowdStrike.) [Read More.](#) (VentureBeat)

Google announces Gemma 2, a 27B-parameter version of its open model, launching in June. Google announced a number of new additions to Gemma, its family of open (but not open source) models comparable to Meta's Llama and Mistral's open models, at its annual Google I/O 2024 developer conference. The headline-grabbing

release here is Gemma 2, the next generation of Google's open-weight Gemma models, which will launch with a 27 billion parameter model in June. [Read More.](#) (TechCrunch)

Microsoft Team Copilot: A virtual team member to run meetings and projects. Microsoft is introducing a new version of Copilot that transforms it from a personal assistant into a virtual colleague to help out teams, departments, and companies. If you're looking for someone to tackle the mundane administrative work, you won't have to worry if there's no budget to bring on an additional headcount. Instead, turn to Copilot — at least, that's the pitch Microsoft is making. Available through Copilot for Microsoft 365, Team Copilot promises to run online meetings by managing the agenda and taking notes. [Read More.](#) (VentureBeat)

Google is building its Gemini Nano AI model into Chrome on the desktop. At the Google I/O 2024 developer conference, Google announced that it is building Gemini Nano, the smallest of its AI models, directly into the Chrome desktop client, starting with Chrome 126. This, the company says, will enable developers to use the on-device model to power their own AI features. Google itself plans to use this new capability to power features like the existing "help me write" tool from Workspace Lab in Gmail, for example. [Read More.](#) (TechCrunch)

Google launches Firebase Genkit, a new open-source framework for building AI-powered apps. Google announced an addition to its Firebase platform that aims to make it easier for developers to build AI-powered applications in JavaScript/TypeScript, with Go support coming soon. Firebase Genkit is an open-source framework, using the Apache 2.0 license, that enables developers to quickly build AI into new and existing applications. [Read More.](#) (TechCrunch)

Google's Imagen 3: Highest-quality text-to-image model in private preview. Google is working on an update to its text-to-image model, saying the new Imagen 3 will provide an incredible level of detail, better understand natural language, and offer better text rendering. It's available for select creators in private preview in ImageFX, but developers can sign up for a waitlist. Imagen 3 is said to be coming to Vertex AI as well. "It's our most capable image generation model yet," Douglas Eck, senior research director of Google DeepMind, says on stage during the company's I/O developer conference. [Read More.](#) (VentureBeat)

Google takes on Sora with the new AI video generator Veo. Since OpenAI unveiled its Sora generative AI video creation model earlier this year, nothing has come close in terms of sheer realism and quality of AI-generated motion visuals — until now. Amid the flurry of announcements at its annual I/O developer conference, Google unveiled a new generative AI video model called Veo made by its researchers at its famed DeepMind AI division. Google Veo is a generative AI video model capable of creating "high-quality, 1080p clips that can go beyond 60 seconds," Google posted from its DeepMind account on the social network X. [Read More.](#) (VentureBeat)

Nvidia launches quantum computer centers with CUDA-Q platform. Nvidia announced it will accelerate quantum computing efforts at national supercomputing centers around the world with the open-source Nvidia CUDA-Q platform. Supercomputing sites in Germany, Japan, and Poland will use the platform to power the quantum processing units (QPUs) inside their Nvidia-accelerated high-performance computing systems. Nvidia also announced that nine new supercomputers worldwide are using Nvidia Grace Hopper Superchips to speed scientific research and discovery. [Read More.](#) (VentureBeat)

Microsoft AI chief: Why AI needs EQ and how it'll create 1,000 Einsteins. . It's a big week for Mustafa Suleyman. Microsoft's recently installed AI division head will be front and center at the company's Build developer conference. With OpenAI and Google having both announced new models and AI programs, all eyes now turn to Seattle, Washington, to see how the Windows maker will respond. Ahead of his first Build, Suleyman sat down with Microsoft's Chief Communications Officer Frank Shaw to discuss everything about AI. [Read More.](#) (VentureBeat)

Dell Technologies building AI Factory with Nvidia, growing AI efforts with Hugging Face, Meta and Microsoft. .Dell Technologies is growing its generative AI capabilities with a series of new capabilities announced at the annual Dell Technologies World conference. The Dell AI Factory is the company's new strategy for technologies and services designed to help make AI adoption simpler, more secure and more economical for enterprises. The offering includes a significant expansion of capabilities with Nvidia, going beyond the solutions the two companies detailed in July 2023. The Dell AI Factory with Nvidia integrates hardware and software from both Dell and Nvidia to help enterprises with gen AI initiatives. [Read More.](#) (VentureBeat)

Google's PaliGemma is the first Gemma vision-language open model. Google has developed a new vision-language multimodal model under its Gemma umbrella of lightweight open models. Named PaliGemma, it is designed to address image captioning, visual question answering, and image retrieval. It joins other Gemma variants, CodeGemma and RecurrentGemma, and is available for developers to use within their projects. Google announced PaliGemma at its developer conference. [Read More.](#) (VentureBeat)

Chart 9: AI-Generated Image of a Droid Using Binoculars While Standing on a Mobile Device



Source: Intro-act, VentureBeat

Google's AI Studio adds video frame extraction and context caching. Two new features are coming to Google AI Studio, one of which was a top developer request. The platform for prototyping and experimenting with machine learning models now supports native video frame extraction and context caching. The former is available, while the latter is coming soon to the Gemini API. Using video frame extraction, developers can take videos uploaded to their apps and have Gemini capture individual frames or images from a specific sequence. This will help the AI better understand what's happening in the scene, provide concise summaries, and improve the user experience. [Read More.](#) (VentureBeat)

BioRaptor and Aleph Farms use AI to lower the costs of cultivated beef. Aleph Farms and BioRaptor have teamed up to use AI to improve the tech and lower the costs of creating cultivated beef. The goal is to use AI to accelerate efficiency in cultivated meat production (also known as cultured meat), which is a form of cellular agriculture where meat is produced by cultivating animal cells in the lab. Integrating BioRaptor's unique AI operating system into Aleph Farms' process development will underscore further scalability and cost reductions in the production of Aleph Cuts as the company prepares for its large-scale plants. [Read More.](#) (VentureBeat)

Vercel acquires ModelFusion, and launches AI SDK 3.1 for enterprise AI development. Vercel, a leading provider of web development tools and infrastructure, announced the acquisition of ModelFusion.dev and the launch of Vercel AI SDK 3.1. This move positions Vercel as a major player in the enterprise AI development space, offering a comprehensive framework for building AI-powered applications using TypeScript. The AI SDK 3.1 introduces AI SDK Core, which provides core functionalities for interacting directly with large language models (LLMs) from several leading providers, such as Anthropic, Perplexity, and Mistral. [Read More.](#) (VentureBeat)

Google takes on GPT-4o with Project Astra, an AI agent that understands the dynamics of the world. At its annual I/O developer conference in Mountain View, Google made a ton of announcements focused on AI, including Project Astra – an effort to build a universal AI agent of the future. An early version was demoed at the conference; the idea is to build a multimodal AI assistant that sits as a helper, sees and understands the dynamics of the world, and responds in real time to help with routine tasks/questions. [Read More.](#) (VentureBeat)

LearnLM is Google's new family of AI models for education. Google says it has developed a new family of generative AI models “fine-tuned” for learning: LearnLM. A collaboration between Google's DeepMind AI research division and Google Research, LearnLM models — built on top of Google's Gemini models — is designed to “conversationally” tutor students on a range of subjects, Google says. [Read More.](#) (TechCrunch)

Intel and Dell's \$20M bet on RunPod suggests the cloud giants are ill-equipped for the AI revolution. As the race to harness AI accelerates in the enterprise, a key challenge remains developing and deploying AI applications into production quickly and at scale. RunPod, a startup offering a globally distributed GPU cloud platform for developing and deploying AI, announced it has raised \$20 million in seed funding from Dell Technologies Capital and Intel Capital to tackle this problem head-on. RunPod's traction points to a larger trend in the industry: the rise of specialized cloud services built specifically for AI. [Read More.](#) (VentureBeat)

PARTNERSHIP AND FUNDRAISING

French AI startup H raises \$220M in a seed round. It's not often that you hear about a seed round above \$10 million. H, a startup based in Paris and previously known as Holistic AI, has announced a \$220 million seed round just a few months after the company's inception. It has managed to raise so much money quickly because it's an AI startup working on new models with an impressive founding team. For example, Charles Kantor, the startup's co-founder and CEO, was a university researcher at Stanford. [Read More.](#) (TechCrunch)

Humane is looking for a buyer after the AI Pin's underwhelming debut. Humane, the startup behind the poorlyreviewed AI Pin wearable computer, is already hunting for a potential buyer for its business. That's according to a report from Bloomberg, which says the company — led by former longtime Apple employees Imran Chaudhri and Bethany Bongiorno — is “seeking a price of between \$750 million and \$1 billion.” [Read More.](#) (The Verge)

Chart 10: AI Pin



Source: Intro-act, The Verge

Data-labeling startup Scale AI raises \$1B as valuation doubles to \$13.8B. Scale AI, which provides data-labeling services to companies that want to train machine learning models, has raised a \$1 billion Series F round from a slew of big-name institutional and corporate investors that include Amazon and Meta. The fundraiser is a mix of primary and secondary funding and is the latest in a slew of big venture capital investments in AI. [Read More.](#) (TechCrunch)

Weka scores \$140M to supercharge AI workloads with “dynamic data pipelines.” Data is the lifeblood of modern AI systems, but making it available for these complex workloads is quite a task. Weka, a startup working to simplify

this challenge by making data continuously available on demand with a unique AI-native offering, announced that it has raised a series E round of \$140 million on the back of significant customer interest. The investment, coming entirely from existing investors, has taken the company's valuation to \$1.6 billion – double what it was in November 2022. [Read More.](#) (VentureBeat)

Ampere scales the CPU to 256 cores and partners with Qualcomm on cloud AI. Server CPU designer Ampere Computing announced its AmpereOne chip family will grow to 256 cores by next year. And the company will also work with Qualcomm on cloud AI accelerators. The new Ampere centralized processing unit (CPU) will provide 40% more performance than any CPU currently on the market, said chief product officer Jeff Wittich, in an interview with *VentureBeat*. Santa Clara-based Ampere will work with Qualcomm Technologies to develop a joint solution for AI inferencing using Qualcomm Technologies' high-performance, low-power Qualcomm Cloud AI 100 inference solutions and Ampere CPUs. Ampere CEO Renee James said the increasing power requirements and energy challenges of AI are bringing Ampere's silicon design approach around performance and efficiency into focus more than ever. [Read More.](#) (VentureBeat)

Sagetap raises \$6.8 million to build an AI-powered marketplace for enterprise software. Sagetap, a startup that uses artificial intelligence to match enterprise software buyers and sellers, announced that it has raised \$6.8 million in seed funding. The company is building what it calls the first AI-driven marketplace for enterprise software procurement, aiming to solve pain points for both overwhelmed technology executives and unknown software vendors looking to fill their sales pipelines. "What we're doing with Sagetap is building the first AI-driven marketplace, matching buyers and sellers of enterprise software," said Sahil Khanna, CEO and co-founder of Sagetap, in an exclusive interview with *VentureBeat*. [Read More.](#) (VentureBeat)

Microsoft adds Iceberg support to Fabric, and partners with Snowflake for bi-directional data access. Microsoft is pushing the bar on simplifying data efforts for enterprises. At its ongoing Build 2024 conference, the company announced that it is expanding its partnership with Snowflake to enable bi-directional data access for joint customers. The move comes with support for Apache Iceberg and will power interoperability between Microsoft Fabric – the company's end-to-end data analytics platform – and Snowflake's data cloud, saving customers the hassle of keeping multiple copies of data at different locations. [Read More.](#) (VentureBeat)

Kyndryl and Nvidia team up to boost enterprise generative AI adoption. IT infrastructure provider Kyndryl has partnered with Nvidia to help business leaders better implement AI-powered projects. Though C-suite executives embrace generative AI, uncertainty remains about capitalizing on the technology. This collaboration provides organizations with the capabilities to expedite development and ensure its usefulness in a real-life setting. This is Kyndryl's first working agreement with Nvidia, but the company is no stranger to tying its services to AI and cloud infrastructure. [Read More.](#) (VentureBeat)

YC-backed Recall.ai gets \$10M Series A to help companies use virtual meeting data. More money for the generative AI boom: Y Combinator-backed infrastructure startup Recall.ai announced it has raised a \$10 million Series A funding round, bringing its total raised to over \$12 million. The startup has built infrastructure and a unified API that enables companies to access raw data from virtual meeting platforms like Google Meet, Microsoft Teams, Slack Huddles, Zoom, and even platforms with no API. [Read More.](#) (TechCrunch)

Berlin-based trawa raises €10M to use AI to make buying renewable energy easier for SMEs. The brutal invasion of Ukraine by Russia in February 2022 took businesses that depended on oil and gas energy by surprise. Suddenly, renewable energy became crucial to survival. But how best to buy it? That was the germination of the idea behind trawa, a Berlin-based renewable energy supplier that recently raised €10 million in a seed round led by Balderton Capital. The funding round brings the startup's total capital raised to more than €12 million. [Read More.](#) (TechCrunch)

Microsoft and Khan Academy partner to show how AI can transform education. Microsoft is partnering with Khan Academy in a multifaceted deal to demonstrate how AI can transform the way we learn. The cornerstone of announcement centers on Khan Academy's Khanmigo AI agent. Microsoft says it will migrate the bot to its Azure OpenAI Service, enabling the nonprofit educational organization to provide all U.S. K-12 educators free access to Khanmigo. In addition, Microsoft plans to use its Phi-3 model to help Khan Academy improve math tutoring and

collaborate to generate more high-quality learning content while making more courses available within Microsoft Copilot and Microsoft Teams for Education. [Read More.](#) (VentureBeat)

Suno raises \$125M to become the “ChatGPT” of music creation. Suno, a trailblazing music AI startup, announced that it has raised a staggering \$125 million in its latest funding round, positioning the company at the forefront of the AI music revolution. The substantial investment is set to transform how music is created, consumed, and monetized, with Suno leading the charge. Founded by Mikey Shulman, a Harvard Ph.D. in physics turned music tech entrepreneur, Suno has quickly become a rising star in the world of generative AI for music. [Read More.](#) (VentureBeat)

Senate study proposes “at least” \$32B yearly for AI programs. A long-running working group in the Senate has issued its policy recommendation for federal funding for AI: \$32 billion yearly, covering everything from infrastructure to grand challenges to national security risk assessments. This “roadmap” is not a bill or detailed policy proposal, but nevertheless, it gives a sense of the scale lawmakers and “stakeholders” are considering whenever they get around to the real thing — though the likelihood of that occurring during an election year is vanishingly small. [Read More.](#) (TechCrunch)

Anthropic is expanding to Europe and raising more money. On the heels of OpenAI announcing the latest iteration of its GPT large language model, its biggest U.S. rival in generative AI announced an expansion of its own. Anthropic said that Claude, its AI assistant, is now live in Europe with support for “multiple languages,” including French, German, Italian, and Spanish across Claude.ai, its iOS app, and its business plan for teams. [Read More.](#) (TechCrunch)

Snowflake invests in Metaplane to solve data quality issues plaguing AI development. Snowflake announced an investment in Metaplane, a Boston-based startup helping enterprises identify and rectify data quality issues with an end-to-end AI-powered platform. While the amount invested remains undisclosed, Snowflake says that the backing will result in tighter integration between Metaplane’s data observability offering and the Snowflake data cloud, allowing users of the latter to keep a closer eye on the information powering their downstream projects, including AI applications. [Read More.](#) (VentureBeat)

Chart 11: A Plane Flying Through a Storm Made with Ideogram



Source: Intro-act, VentureBeat

AISAP announces \$13M seed for AI-powered ultrasounds. In a major leap in medical imaging, Israeli startup AISAP announced that it has secured \$13 million in seed funding for an AI-powered software platform that connects to common ultrasound wands and sensors, providing a rapid assessment of patients’ conditions for physicians — even

those doctors and medical professionals without any formal training in analyzing ultrasound imagery. AISAP's Point-of-Care Assisted Diagnosis (POCAD) delivers results in as little as five minutes, compared to other ultrasound procedures that can take hours or even days for results to become available, as they are limited by the availability of radiologists who can interpret images and the labs where said images are processed. [Read More.](#) (VentureBeat)

OpenAI Startup Fund raises an additional \$5M. The OpenAI Startup Fund, a venture fund that invests in early-stage AI companies and has recently transferred legal control from Sam Altman to Ian Hathaway, has closed on an additional \$5 million, according to a filing with the U.S. Securities and Exchange Commission. The fresh funds were raised from two investors who transferred the capital into a special purpose vehicle, a legal entity associated with the OpenAI Startup Fund: OpenAI Startup Fund SPV III, L.P. [Read More.](#) (TechCrunch)

OpenAI partners with Reddit to integrate unique user-generated content into ChatGPT. Reddit, the widely popular social news aggregation and discussion platform, and OpenAI, the leading AI research organization, have announced a strategic partnership that promises to revolutionize the way users interact with online communities and experience AI-powered features. The collaboration, which follows Reddit's recent \$60 million per year content licensing deal with Google, aims to leverage the unique strengths of both companies to deliver unparalleled user experiences and drive innovation in the field of artificial intelligence. [Read More.](#) (VentureBeat)

Voxel51 raises \$30M to make visual AI a reality. Voxel51 has raised \$30 million in new funding to develop its visual AI platform, which is designed to reduce the failure rate of AI projects. The company says this is because models haven't been refined to interpret the data properly. Voxel51 wants to solve this problem by helping developers create more accurate and robust production-ready AI that can be used within their applications. The new investment was led by Bessemer Venture Partners with participation from Tru Arrow Partners, Drive Capital, Top Harvest Capital, Shasta Ventures, and ID Ventures. Voxel51 says it'll use the funds to add support for new data modalities, implement the next level of dataset scale, and deepen its technology integrations. [Read More.](#) (VentureBeat)

LanceDB raises \$11M to build an open-source multimodal AI database. Traditional tabular databases weren't made for the AI era. They don't seem capable of handling complex data types like vectors, images, videos, and audio at scale. Storing is one thing, but what about retrieving that data? If it's one file type, then it might be easy pickings, but things get more complicated when dealing with multiple types. LanceDB is looking to be that resource for the AI world. The Y Combinator-backed company announced that it raised \$11 million in total funding and closed an \$8 million seed round to develop a database specifically fashioned for multimodal data. [Read More.](#) (VentureBeat)

Rapid Liquid Print Secures \$7M Funding for Liquid-Based 3D Printing. MIT spin-off Rapid Liquid Print has recently secured a substantial \$7 million investment, propelling its innovative liquid-based 3D printing technology forward. Founded in 2015, Rapid Liquid Print is based in Boston and has attracted investments from prominent entities like Germany's HZG Group, BMW i Ventures, and MassMutual through MM Catalyst Fund. [Read More.](#) (3D Printing)

Perplexity's latest partnership is set to power SoundHound's voice assistant. As OpenAI gears up to launch a search-focused product to take on Google and Bing, Perplexity, the company already making waves with an AI-first knowledge engine, is going all in on pushing the reach of its product through industry partnerships. A few weeks ago, the Aravind Srinivas-led startup shared plans for global expansion with major telcos. And now, as the next step, it is teaming up with SoundHound, a leader in voice AI. Under the engagement, Perplexity's online large language model (LLM)-driven capabilities will power SoundHound's Chat AI voice assistant, making it more capable than ever. [Read More.](#) (VentureBeat)

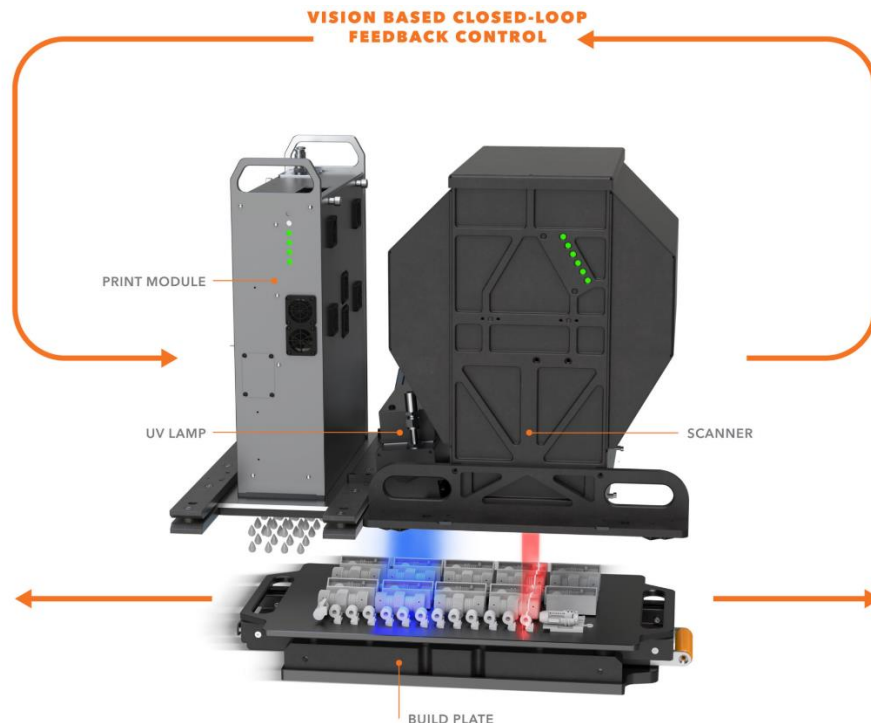
Yellow raises \$5M from A16z for Gen AI-powered 3D modeling tool. Yellow has raised \$5 million in seed funding from A16z Games to fund further development of its Gen AI-powered 3D modeling tool. With its YellowSculpt tool, artists can generate clean, pre-rigged 3D character meshes based on a text prompt in under three minutes. Like 2D image generators, Yellow makes 3D character creation accessible to a wider audience. Additionally, YellowSculpt removes much of the work necessary to make 3D characters ready to animate and use in a game. "What sets Yellow apart is their focus on empowering human creativity through AI — they're building tools that not only amplify today's professional 3D artists but also make character creation accessible to all," said Jack Soslow, Partner at A16z. [Read More.](#) (VentureBeat)

Atlan scores \$105M to address enterprise “data chaos” with a unified control plane. San Francisco-based Atlan, a startup working to bring some order to the “data chaos” that enterprises face, announced it has raised \$105 million in a series C round of funding. The investment takes the company’s valuation to more than \$750 million. The funding has been led by Singapore’s sovereign wealth fund GIC and Meritech Capital, with participation from existing investors Salesforce Ventures and PeakXV Partners. Atlan said it will use the capital to further develop its product, which acts as a unified control plane to stitch disparate data infrastructure, right from data platforms like Databricks, to CRMs such as Salesforce 360. [Read More.](#) (VentureBeat)

CoreWeave raises \$1.1 billion for its GPU cloud infrastructure. CoreWeave, the AI startup that “came out of nowhere,” has raised \$1.1 billion in new funding. It has now received nearly \$5 billion in venture capital and debt financing to help build cloud infrastructure that enables GPU-accelerated workloads, an expensive feat. The company said it will use the new investment to fuel growth across all areas of its business and expand into new geographic regions. “CoreWeave is designed specifically to tackle the most complex and pressing challenges in high performance computing,” Mike Intrator, CoreWeave’s chief executive, remarked in a statement. [Read More.](#) (VentureBeat)

Inkbit Secures \$19M Financing for Advanced Additive Manufacturing. Inkbit has finalized a \$19M financing round, spearheaded by Ingersoll Rand. The investment will propel Inkbit’s innovative multi-functional additive manufacturing technology to new levels of commercialization. The cornerstone of Inkbit’s approach is Vision-Controlled Jetting (VCJ), a system designed to accelerate product development cycles by seamlessly transitioning from prototyping to production. [Read More.](#) (3D Printing)

Chart 12: Inkbit’s Tech



Source: Intro-act, 3D Printing

Neurable raises \$13M for brain-computer interface with everyday products. Neurable raised \$13 million for its brain-computer interface (BCI) technology that can work with everyday products. Boston-based Neurable plans to use this funding round to advance its platform technology with a range of large-scale applications through its BCI AI technology and scaling its licensing business to further development and experimentation across multiple industries Neurable wants to democratize neurotechnology. [Read More.](#) (VentureBeat)

Altera raises \$9M to develop AI for digital humans. Altera has raised \$9 million to develop AI technology to create digital humans that behave in believable ways. Palo Alto, California-based Altera (which is not the chip company you might otherwise know by the same name) has now raised a total of \$11.1 million in funding since its inception in December 2023. This amount of funding for a company that is only five months old is pretty startling. Led by Patron and First Spark Ventures, this round includes a list of investors like A16z Speedrun, gaming industry luminary Mitch Lasky, and co-creator of Valorant, Stephen Lim. [Read More.](#) (VentureBeat)

Espresso AI emerges from stealth with \$11M to tackle the cloud cost crisis. Espresso AI, a stealthy Silicon Valley artificial intelligence startup, has raised over \$11 million in seed funding to bring the power of AI to perhaps the biggest challenge in enterprise computing today: reining in runaway cloud costs. The funding includes a seed round led by Daniel Gross and Nat Friedman, and a pre-seed round led by Matt Turck at FirstMark, with participation from industry leaders. The company, which emerged from stealth, has developed technology that uses advanced language models and machine learning to automatically optimize code and reduce cloud compute costs. [Read More.](#) (VentureBeat)

Docusign doubles down on IAM with \$165M acquisition of Lexion. Docusign has announced the acquisition of Lexion, an AI-powered agreement management software provider, in an all-cash deal valued at \$165 million. The purchase is intended to shore up Docusign's position in the Intelligent Agreement Management (IAM) space, an area the company entered last month. But Lexion isn't going away — at least not yet. Docusign says Lexion's products will continue to be available and even improved for the hundreds of enterprise customers already using the software. [Read More.](#) (VentureBeat)

OpenAI partners with Stack Overflow to make models better at coding. A week after partnering with the Financial Times, OpenAI has announced it is teaming up with Stack Overflow – the open platform to discuss and vote on common coding challenges – to improve its models' ability to handle programming-related tasks. Under the engagement, the terms of which remain undisclosed, OpenAI developers will have access to Stack Overflow's vetted technical knowledge, code, and community to improve the performance of their models. The partnership will also make ChatGPT better at programming, both companies confirmed in a statement. [Read More.](#) (VentureBeat)

Imec.xpand raises \$320M for funds to invest in semiconductors and nanotechnology. Imec.xpand, a chip and nanotech-focused venture capital fund, announced the launch of a new \$320 million fund. The specialized tech fund, based in Leuven, Belgium, will target innovations in semiconductors and nanotechnology. Established as a collaborative effort with Imec, the R&D and innovation hub in nanoelectronics, the fund will invest in startups that have the potential to be globally disruptive within their target domains. [Read More.](#) (VentureBeat)

DISRUPTIVE TECH EVENTS CALENDAR

Chart 13: Disruptive Tech Industry Events Calendar

S. No.	Event Name	Place	Date	Registration Link
1	Info Q	Boston, MA	24 th June, 2024	Link
2	ReactNext	Tel-Aviv, Israel	24 th June, 2024	Link
3	Techspo Charlotte	Charlotte, NC	24 th June, 2024	Link
4	Reuters Events: Downstream USA 2024	Galveston, TX	26 th June, 2024	Link
5	VidCon Anaheim	Anaheim, CA	26 th June, 2024	Link
6	Techspo Miami 2024	Miami, FL	27 th June, 2024	Link
7	AIBC AMERICAS	Sao Paulo, Brazil	June 2024	Link
8	Lead Today. Shape Tomorrow.	TBA	June 2024	Link
9	TECHSPO San Francisco 2024	San Francisco, CA	8 th July, 2024	Link
10	TECHSPO Silicon Valley 2024	San Francisco, CA	8 th July, 2024	Link
11	TECHSPO Tokyo 2024	Tokyo, Japan	18 th July, 2024	Link
12	THAT Conference Wisconsin	Wisconsin Dells, WI	29 th July, 2024	Link

Source: Intro-act, Multiple Web Sources

AI - FUNDING

Chart 14: Top Seed /Angel Deals in Q1'24

Company Name	Security Type	Investment Date	Amount (\$ million)
Physical Intelligence	Seed VC	3/12/2024	\$70M
Relation Therapeutics	Seed VC	1/19/2024	\$35M
Sakana AI	Seed VC	1/17/2024	\$30M
Borderless AI	Seed VC	3/21/2024	\$27M
Adaptive ML	Seed VC	3/11/2024	\$20M
ArteraAI	Seed VC	2/1/2024	\$20M
Dandelion	Seed VC	3/15/2024	\$16M
Jua	Seed VC	2/5/2024	\$16M
Haiper	Seed VC	3/5/2024	\$14M
Monumo	Seed VC	2/20/2024	\$13M

Source: Intro-act, CB-Insights

Chart 15: Top Unicorns by Valuation in Q1'24

S. No.	Company Name	Amount (\$ Billion)	Country
1	ByteDance	\$225.0B	China
2	OpenAI	\$80.0B	United States
3	Databricks	\$43.0B	United States
4	Anthropic	\$18.4B	United States
5	Grammarly	\$13.0B	United States
6	Faire	\$12.6B	United States
7	Talkdesk	\$10.0B	United States
8	Tanium	\$9.0B	United States
9	Nuro	\$8.6B	United States
10	Pony.ai	\$8.6B	United States

Source: Intro-act, CB-Insights

Chart 16: M&A Transactions in Disruptive Tech Companies in the Past Three Months

Target	Acquirer	Announcement Date	Transaction Status	Target Country
Torc LLC	Randstad Digital BV	16-May-2024	Complete	United States
MEDIASEEK, Inc.	Japan Living Warranty, Inc.	26-Apr-2024	Pending	Japan
Emergya Ingenieria SL	Alía Gestión Integral de Servicios SL; A&M Capital Partners /GB/	22-Apr-2024	Pending	Spain
Triller Corp.	AGBA Group Holding Ltd.	18-Apr-2024	Pending	United States
IID Holdings LLC	X2Engine, Inc.	03-Apr-2024	Complete	United States
ArtiQ NV	ERT Operating Co.	02-Apr-2024	Complete	Belgium
Amlgo Labs Pvt. Ltd.	Maruti Suzuki India Ltd.	22-Mar-2024	Pending	India
Backyard Co. Ltd.	Principal Next Co. Ltd.	14-Mar-2024	Complete	Thailand
PiperLab SL	Bain & Co., Inc.	13-Mar-2024	Complete	Spain
Ultimate Enterprises Oy	Zendesk, Inc.	13-Mar-2024	Complete	Finland
Applications Technology, Inc.	Platinum Equity Advisors LLC; Deluxe Entertainment Services Group, Inc.	12-Mar-2024	Complete	United States
Solv AS	Advania AB	12-Mar-2024	Complete	Norway
Aural Analytics, Inc.	Linus Health, Inc.	11-Mar-2024	Complete	United States
Qatent SAS	Questel SAS	08-Mar-2024	Complete	France
Udacity, Inc.	Accenture Plc	05-Mar-2024	Complete	United States
Ultinous	Irisity AB	28-Feb-2024	Complete	Hungary

Source: Intro-act, FactSet

AI ETFs

Global X Robotics & Artificial Intelligence ETF (BOTZ)

Closing (05/23/24)	Price	\$31.25	1 Week Change	NAV	-1.73%	NAV (YTD)	Change	12.63%
AUM (as of 05/23/24)	\$2,630 Mn	Fund Inception	09/12/2016	Expense Ratio	0.68%			

The Global X Robotics & Artificial Intelligence ETF invests in an index of companies that stand to benefit from the increased adoption of automation, robotics, and artificial intelligence. Part of the Global X suite of niche thematic ETFs, BOTZ's top holdings include NVIDIA, Keyence Corp, and Mitsubishi Electric. At 68 basis points, the BOTZ management fee is high for passive funds, but niche products aren't designed to be core portfolio products for set-it-and-forget-it investors. Micro-sector funds are geared for medium-term tactical wagers of weeks or months.

Monthly Market Performance (Month Ending 05/23/2024)

One Month	Three Months	Six Months	YTD	One Year	Inception
5.30%	1.56%	18.94%	12.63%	19.40%	111.45%

Quarterly Market Performance (Quarter Ending 03/31/2024)

One Month	Three Months	Six Months	YTD	One Year	Inception
3.25%	14.80%	28.79%	14.80%	30.21%	115.51%

Top 10 Holdings (Updated as of 05/23/24)

Ticker	Company	% of Funds	Market Value
NVDA	Nvidia Corp	10.43	288.85M
ABBN SW	Abb Ltd-Reg	9.21	255.21M
ISRG	Intuitive Surgical Inc	8.22	227.72M
6861 JP	Keyence Corp	7.88	218.38M
6273 JP	SMC Corp	6.96	192.93M
6954 JP	Fanuc Corp	4.51	125.04M
6506 JP	Yaskawa Electric Corp	4.37	121.12M
DT	Dynatrace Inc	4.3	119.03M
CGNX	Cognex Corp	3.74	103.72M
PATH	Uipath Inc - Class A	3.59	99.34M

For more information on BOTZ visit: <https://www.globalxetfs.com/funds/botz/>

AI ETFs

Trueshares Technology, AI & Deep Learning ETF (LRNZ)

Closing (05/23/24)	Price	\$ 38.44	1 Week Change	NAV	0.17%	NAV (YTD)	Change	4.35%
AUM (as of 05/23/24)	\$38.86Mn	Fund Inception	02/28/2020	Expense Ratio	0.69%			

LRNZ is actively managed and invests in global equities focused on Artificial Intelligence and deep learning. LRNZ is one of TrueMark's first ETFs. The fund is an actively managed, concentrated portfolio of global stocks focused on the development and utilization of artificial intelligence, machine learning, or other deep learning technologies. The fund will hold 20-30 mostly large-cap stocks that derive at least half of their revenue or are determined to have a competitive advantage, in such technologies. Stocks are classified as either secular growth, a cyclical growth business, or IPO. The fund advisor selects the portfolio based on individual value and growth prospects. Secular growth stocks are expected to have the greatest number of holdings, to which the advisor anticipates utilizing a buy-and-hold strategy. Cyclical growth businesses are screened using fundamental analysis, to potentially buy shares at the bottom of a cycle and sell at the peak. Positions in selected IPOs are built over four to six months following the IPO. LRNZ caps industry exposure at 25%. Prior to May 18, 2020, the fund name was TrueMark Technology, AI & Deep Learning.

Monthly Market Performance (Month Ending 05/23/2024)

One Month	Three Months	Six Months	YTD	One Year	Inception
6.36%	-3.89%	18.89%	4.35%	31.01%	51.51%

Quarterly Market Performance (Quarter Ending 03/31/2024)

One Month	Three Months	Six Months	YTD	One Year	Inception
-3.03%	6.15%	20.95%	-2.05%	51.92%	54.14%

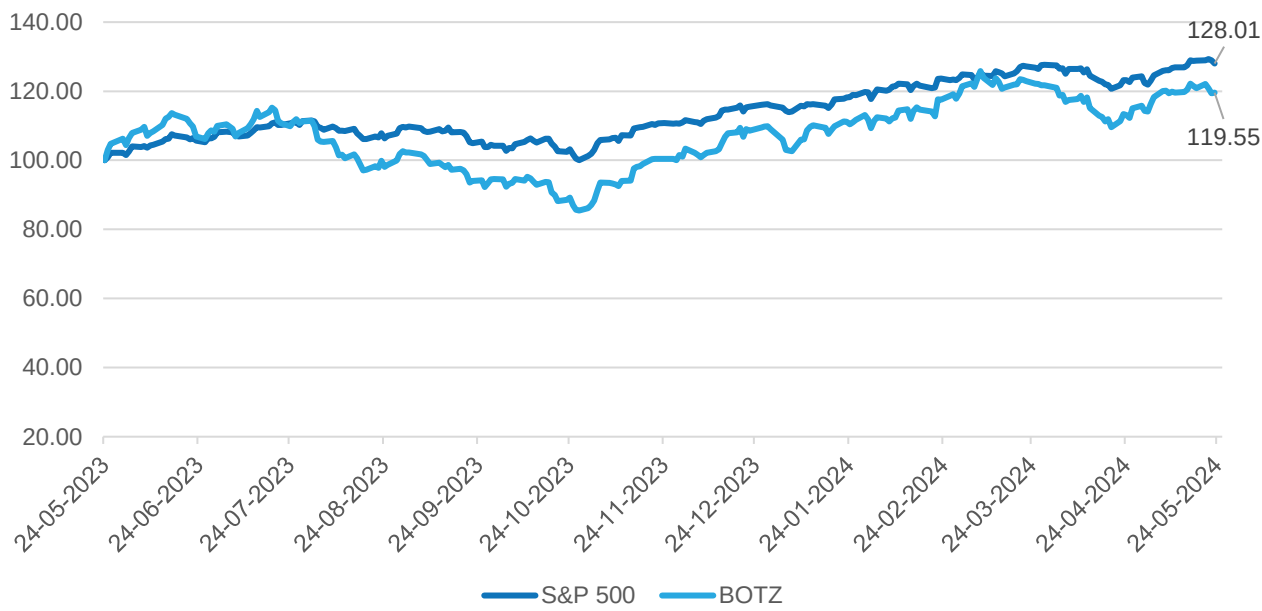
Top 10 Holdings (Updated as of 05/23/24)

Ticker	Company	% of Funds	Market Value (\$M)
NVDA	NVIDIA Corp	15%	6.16M
CRWD	CrowdStrike Holdings Inc	9%	3.61M
IOT	Samsara Inc	8%	3.26M
AMD	Advanced Micro Devices Inc	6%	2.44M
ESTC	Elastic NV	5%	2.11M
SNOW	Snowflake Inc	5%	1.98M
DDOG	Datadog Inc	5%	1.92M
MDB	MongoDB Inc	5%	1.91M
NOW	ServiceNow Inc	4%	1.81M
LLY	Eli Lilly & Co	4%	1.80M

For more information on LRNZ visit: <https://www.true-shares.com/lrnz/>

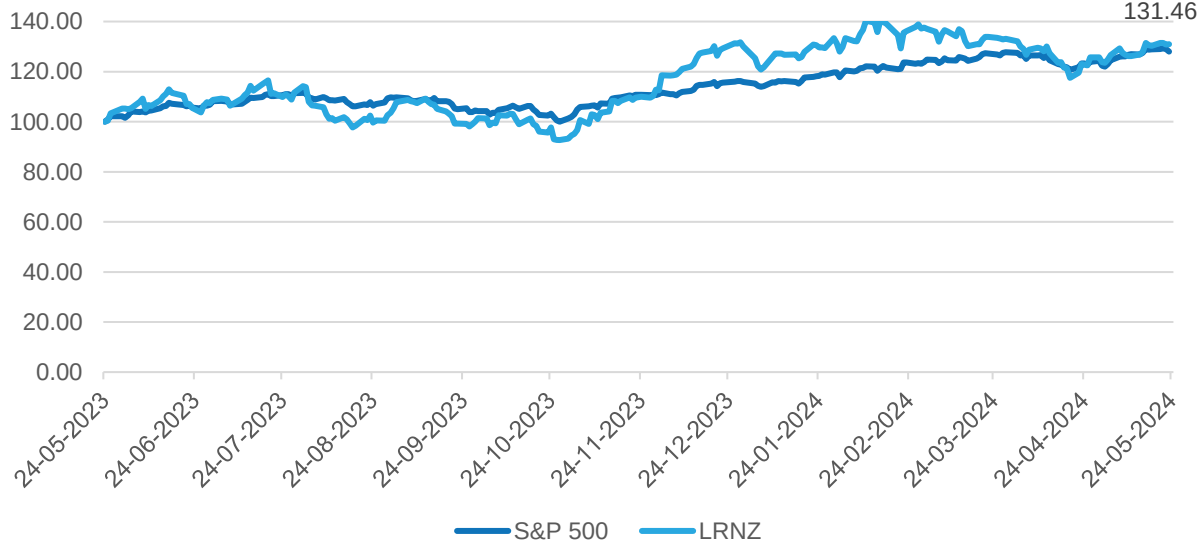
AI ETFs

Chart 17: BOTZ vs. S&P 500



Source: Intro-act, Yahoo! Finance

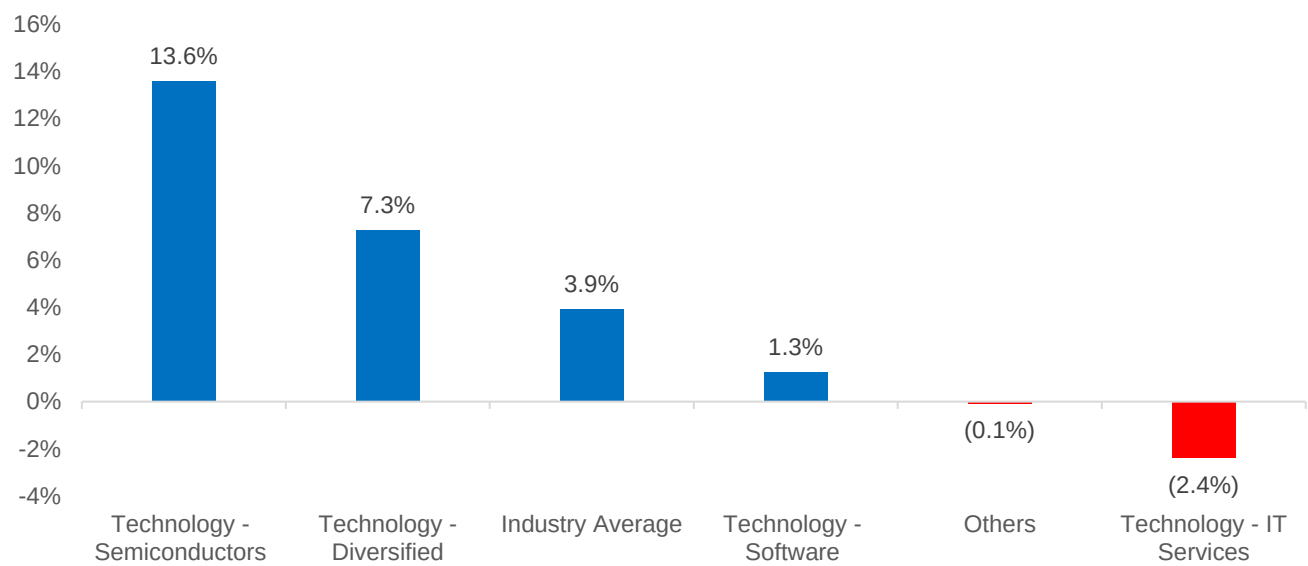
Chart 18: LRNZ vs. S&P 500



Source: Intro-act, Yahoo! Finance

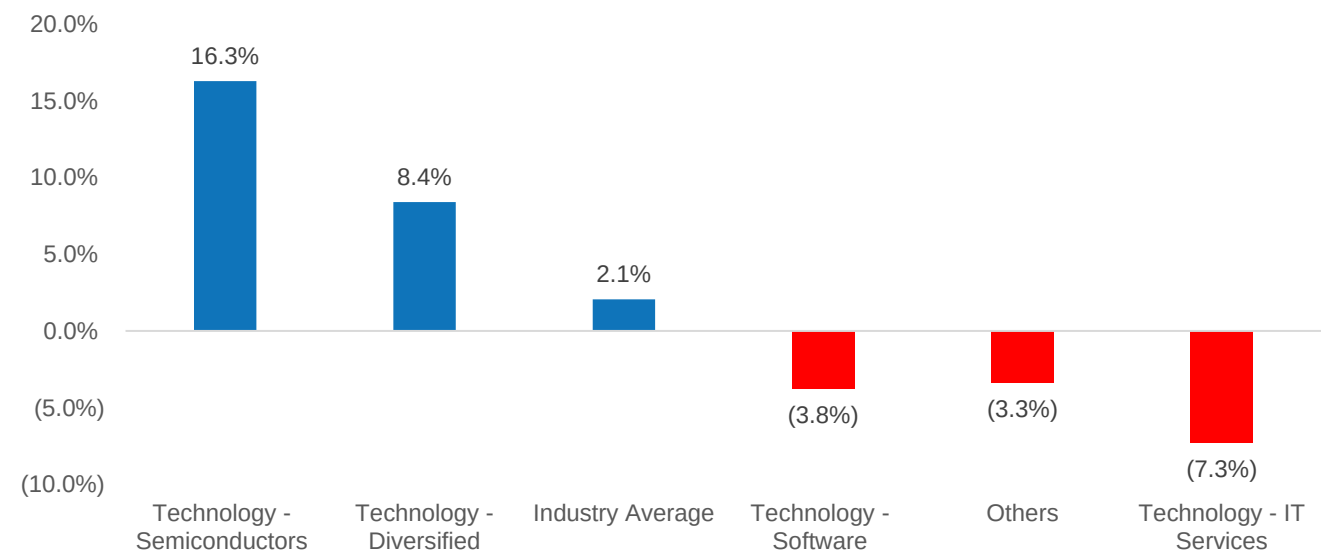
LEADERS AND LAGGARDS – DISRUPTIVE TECH SEGMENTS

Chart 19: M/M Returns by DT Segments



Source: Intro-act, FactSet. Data as of May 23, 2024

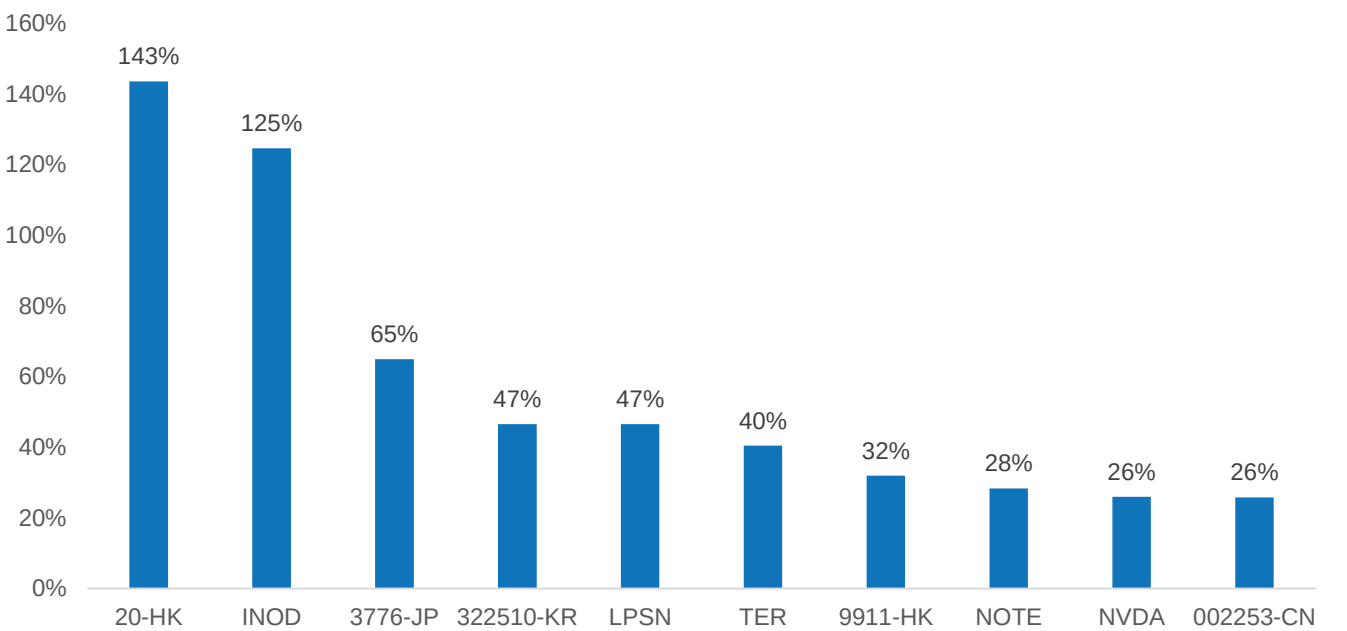
Chart 20: YTD Returns by DT Segments



Source: Intro-act, FactSet, Data as of May 23, 2024

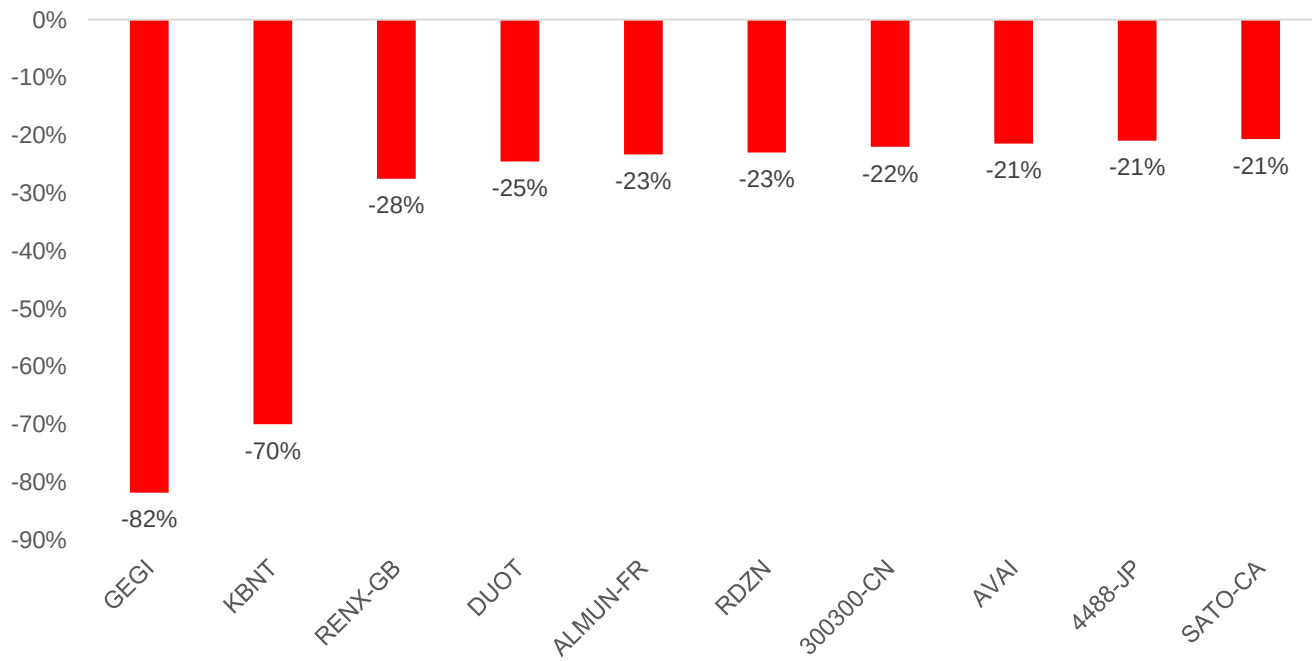
LEADERS AND LAGGARDS – DISRUPTIVE TECH STOCKS

Chart 21: M/M Top 10 Disruptive Tech Gainers



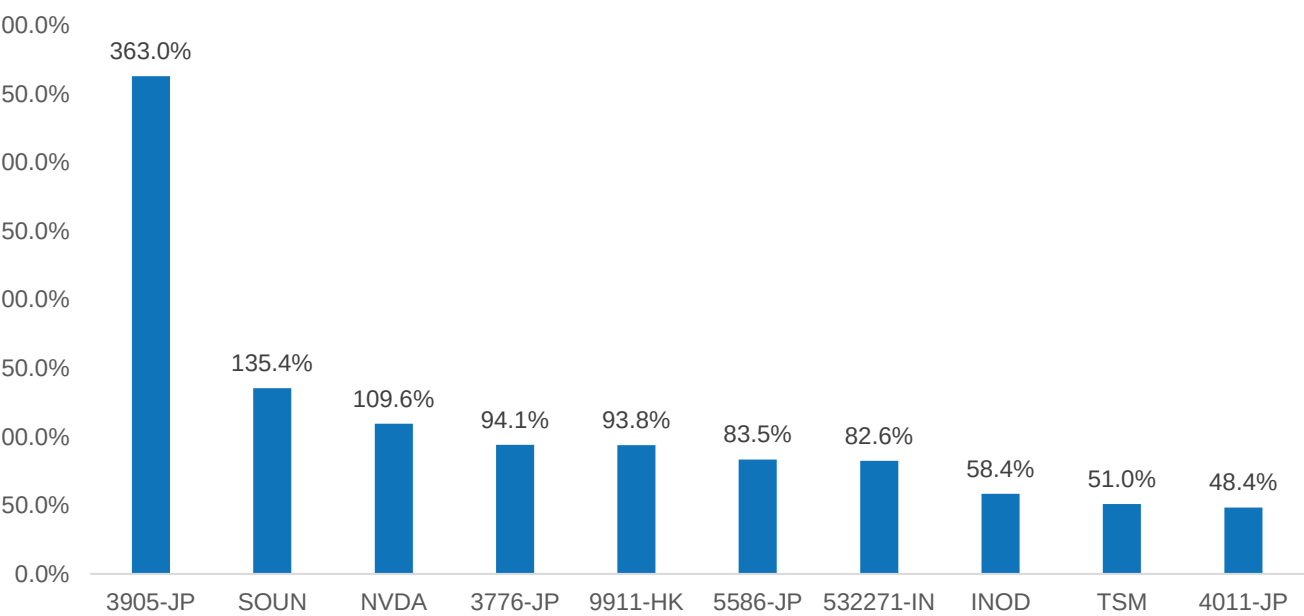
Source: Intro-act, FactSet. Data as of May 23, 2024

Chart 22: M/M Top 10 Disruptive Tech Losers



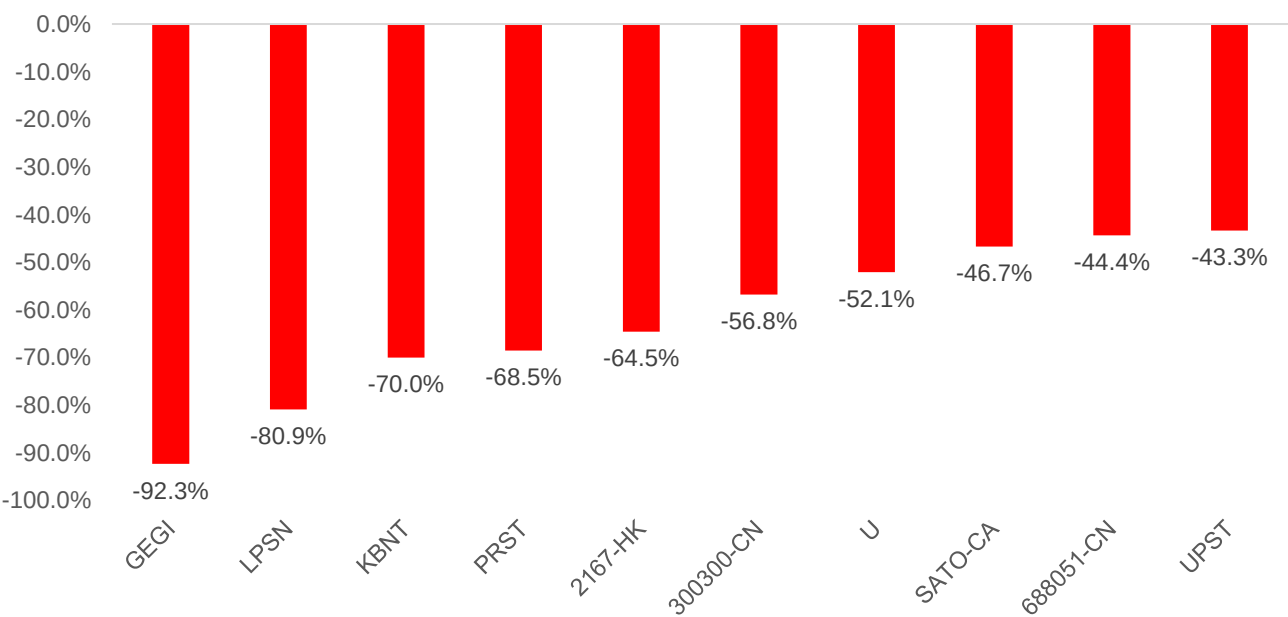
Source: Intro-act, FactSet. Data as of May 23, 2024

Chart 23: YTD Top 10 Disruptive Tech Gainers



Source: Intro-act, FactSet. Data as of May 23, 2024

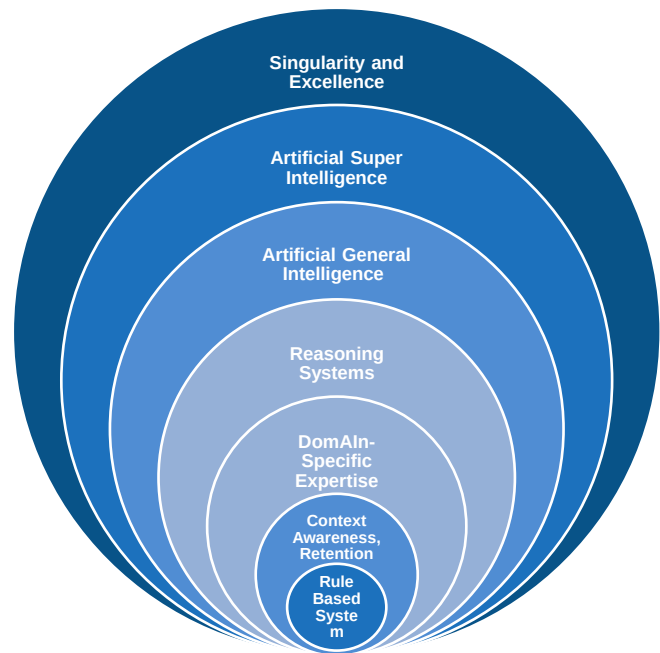
Chart 24: YTD Top 10 Disruptive Tech Losers



Source: Intro-act, FactSet. Data as of May 23, 2024

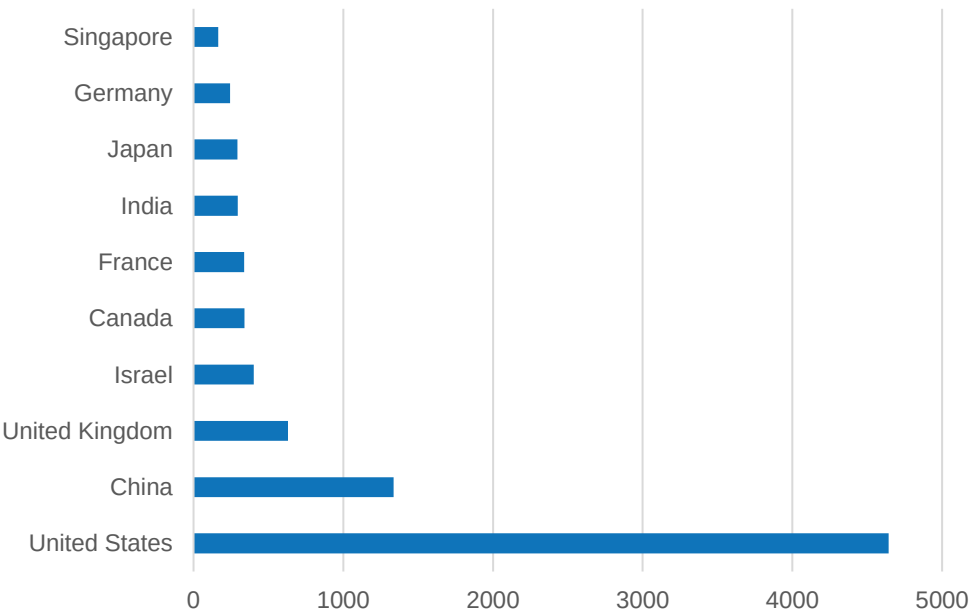
AI – BACKGROUND

Chart 25: The Stages of AI



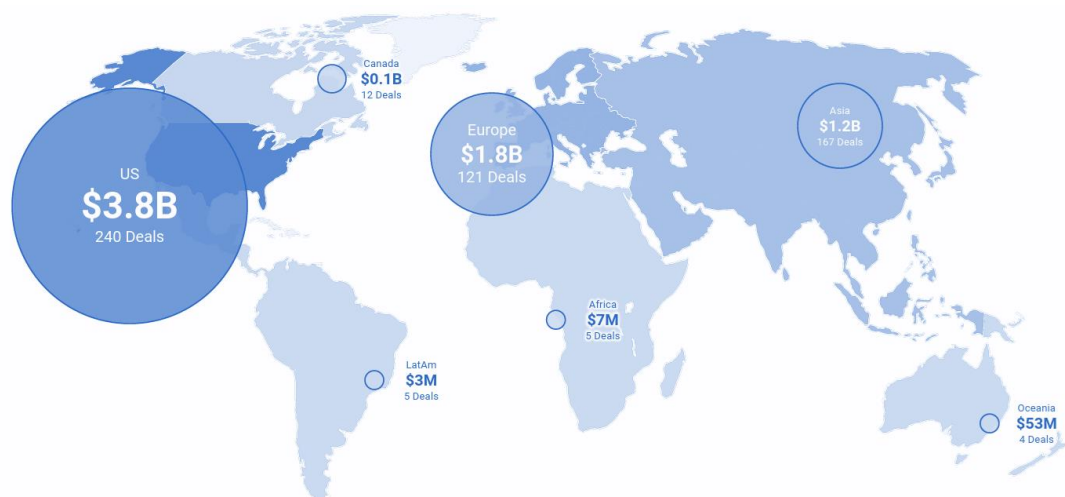
Source: Intro-act, Record

Chart 26: Countries With the Highest Number of Startups in AI



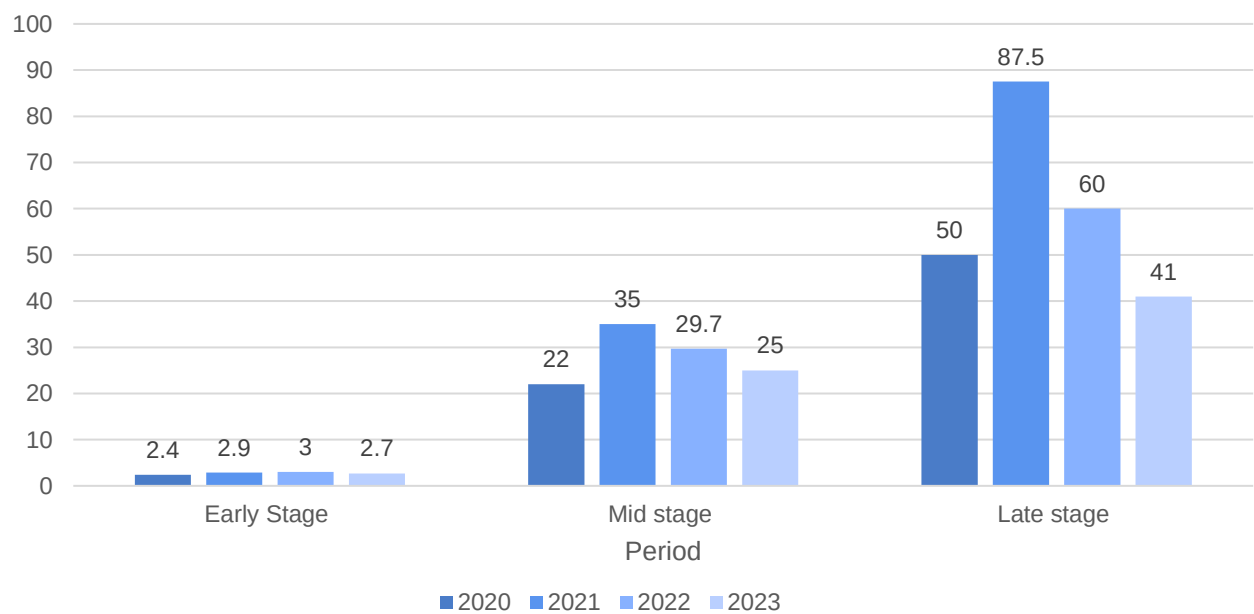
Source: Intro-act, [Capital Group](#)

Chart 27: Private Investments in AI (in Billion)



Source: Intro-act, CB Insights

Chart 28: Deal Size Across Stages (In \$ Million)



Source: Intro-act, CB-Insights

Chart 29: Disruptive Tech Institutional Owners League (Current)

Rank	Investor Name	# DisruptiveTech Positions	Invested DisruptiveTech in	Q/Q Change in Volume	% of Instit Ownership
1	The Vanguard Group, Inc.	83	1,602,985	241,252	11.6%
2	BlackRock Fund Advisors	69	898,337	134,109	6.5%
3	SSgA Funds Management, Inc.	79	743,559	124,221	5.4%
4	Fidelity Management & Research Co. LLC	59	571,968	81,715	4.2%
5	Geode Capital Management LLC	71	390,778	60,445	2.8%
6	T. Rowe Price Associates, Inc. (Investment Management)	41	313,291	32,765	2.3%
7	Norges Bank Investment Management	49	265,819	265,819	1.9%
8	Northern Trust Investments, Inc. (Investment Management)	65	181,718	24,888	1.3%
9	JPMorgan Investment Management, Inc.	51	181,563	21,969	1.3%
10	Berkshire Hathaway, Inc. (Investment Management)	3	177,386	18,091	1.3%
11	Wellington Management Co. LLP	47	146,803	12,579	1.1%
12	Capital Research & Management Co. (World Investors)	31	140,824	21,457	1.0%
13	Capital Research & Management Co. (Global Investors)	21	139,756	23,680	1.0%
14	BlackRock Advisors (UK) Ltd.	59	137,330	21,412	1.0%
15	Capital Research & Management Co. (International Investors)	29	135,523	24,273	1.0%
16	BlackRock Investment Management (UK) Ltd.	59	123,884	16,181	0.9%
17	Charles Schwab Investment Management, Inc.	65	120,579	18,256	0.9%
18	Morgan Stanley Smith Barney LLC (Investment Management)	47	107,223	16,320	0.8%
19	Goldman Sachs Asset Management LP	57	99,265	15,664	0.7%
20	Legal & General Investment Management Ltd.	65	98,989	18,001	0.7%
21	AllianceBernstein LP	55	90,338	14,714	0.7%
22	Parametric Portfolio Associates	49	84,369	10,861	0.6%
23	Massachusetts Financial Services	33	81,385	9,355	0.6%
24	TIAA-CREF Investment Management LLC	57	77,120	9,801	0.6%
25	Jennison Associates LLC	25	75,895	7,259	0.6%
26	Columbia Management Investment Advisers LLC	47	73,954	8,391	0.5%
27	Amundi Asset Management US	41	72,024	8,669	0.5%
28	The Bank of New York Mellon Corp. (Investment Management)	37	71,446	9,323	0.5%
29	Fisher Asset Management LLC	33	70,914	10,875	0.5%
30	Managed Account Advisors LLC	33	69,275	6,615	0.5%
Other			6,422,639	936,055	46.7%
Total			13,766,938	2,225,014	

Source: Intro-act, 13F Filings

Disruptive Tech – Monthly AI Update

		5/23/2024	Share Price	Mkt Cap (\$ Mns)	Ent Val (\$ Mns)	Price Performance			Sales			EBITDA		Book Value							
						% to High	% to Low	% YTD	LTM	NTM	EV/Sales	LTM	NTM	EV/EBITDA	Book/Share	P/Book					
Peer Set																					
TECHNOLOGY- DIVERSIFIED																					
1	Apple	AAPL	186.88	2,865,633	2,903,077	7%	-12%	5%	394,328	397,503	7.3 x	130,733	133,496	21.7 x	4.84	38.6 x					
2	Amazon	AMZN	181.05	1,884,120	1,952,302	6%	-37%	9%	513,983	652,076	3.0 x	73,978	140,237	13.9 x	20.83	8.7 x					
3	Meta	META	465.78	1,020,732	1,160,898	14%	-47%	38%	116,609	163,487	7.1 x	52,072	95,292	12.2 x	58.94	7.9 x					
4	Google	GOOGL	173.55	1,019,433	2,065,016	3%	-34%	20%	282,836	354,707	5.8 x	110,155	150,398	13.7 x	23.65	7.3 x					
5	Tesla	TSLA	173.74	554,091	537,579	72%	-20%	-51%	81,464	103,374	5.2 x	19,096	17,733	30.3 x	20.19	8.6 x					
TECHNOLOGY- SEMICONDUCTORS																					
6	Nvidia	NVDA	1,037.99	2,594,975	2,580,047	2%	-71%	253%	26,974	128,311	20.1 x	10,107	85,346	30.2 x	17.44	59.5 x					
7	Taiwan Semiconductor	TSM	157.09	814,827	787,225	2%	-47%	31%	74,351	88,906	8.9 x	51,323	60,316	13.1 x	21.73	7.2 x					
8	Advanced Micro Devices	AMD	160.43	259,305	256,268	42%	-42%	11%	23,601	27,284	9.4 x	8,518	9,584	26.7 x	34.73	4.6 x					
9	Intel	INTC	30.08	128,051	163,973	70%	-11%	-42%	63,054	57,922	2.8 x	19,346	16,713	9.8 x	24.89	1.2 x					
10	Teradyne	TER	140.25	21,895	21,229	4%	-42%	-14%	3,155	2,905	7.3 x	978	716	29.7 x	16.64	8.4 x					
11	Ambarella	AMBA	49.07	2,011	1,797	82%	-18%	-76%	338	250	7.2 x	59	(28)	-	13.82	3.6 x					
12	SMART Global	SGH	20.18	1,055	1,399	49%	-37%	-43%	1,819	1,308	1.1 x	270	172	8.2 x	7.75	2.6 x					
13	CEVA	CEVA	19.29	455	302	43%	-15%	-55%	135	108	2.8 x	(0)	17	17.9 x	11.13	1.7 x					
TECHNOLOGY- IT SERVICES																					

Disruptive Tech – Monthly AI Update

14	IBM	IBM	170.67	156,778	200,444	17%	-27%	28%	60,530	63,376	3.2 x	15,838	14,731	13.6 x	25.32	6.7 x
15	Capgemini SE	CAP-FR	230.93	39,860	42,778	8%	-30%	-5%	23,498	-	-	3,739	-	-	65.26	3.5 x
16	Elm Company	7203-SA	224.61	17,969	16,554	34%	-47%	-	1,227	-	-	291	-	-	13.88	16.2 x
17	ArcSoft Corp	688088-CN	4.29	1,743	1,428	75%	-32%	-37%	77	152	9.4 x	8	-	-	0.93	4.6 x
18	Northern Data AG	NB2-DE	26.25	1,405		37%	-41%	-32%	-	223	-	-	60	-		-
19	BigBear.ai Hold	BBAI	1.52	374	500	215%	-24%	-73%	155	200	2.5 x	(17)	(3)	-	0.44	3.4 x
20	Innodata	INOD	12.89	371	356	19%	-58%	118%	-	132	2.7 x	-	-	-	0.96	13.4 x
21	NSW	9739-JP	19.33	288	166	18%	-15%	-3%	339	-	-	-	-	-	14.15	1.4 x
22	GMO GlobalSign Hold	3788-JP	17.95	210	177	48%	-12%	-50%	120	-	-	-	-	-	4.86	3.7 x
23	FiscalNote Hold	NOTE	1.54	194	345	193%	-58%	-84%	116	126	2.7 x	(24)	9	36.6 x	0.81	1.9 x
24	FRONTEO	2158-JP	3.85	151	161	63%	-6%	-87%	53	-	-	-	-	-	0.46	8.4 x
25	Neural Group	4056-JP	5.99	92	101	127%	-1%	-53%	22	-	-	-	-	-	0.23	25.9 x
26	Appen Limited	APX-AU	0.39	87	67	510%	-57%	-95%	389	-	-	11	-	-	0.42	0.9 x
27	Metareal	6182-JP	6.60	71	61	140%	-8%	-49%	32	-	-	-	-	-	0.89	7.4 x
28	Japan Data Science Cons	4418-JP	5.18	69	64	92%	-13%	-72%	11	-	-	-	-	-	1.68	3.1 x
29	Tripleize	5026-JP	6.65	49	51	69%	-37%	-	16	-	-	-	-	-	0.57	11.7 x
30	AR advanced technology	5578-JP	12.06	40	31	186%	-5%	-	-	-	-	-	-	-	3.46	3.5 x
31	PBT Group	PBG-ZA	0.36	38	49	29%	-7%	-43%	-	-	-	-	-	-	0.13	2.9 x
32	JTP Co.	2488-JP	5.89	35	15	59%	-3%	14%	-	-	-	-	-	-	3.72	1.6 x

Disruptive Tech – Monthly AI Update

33	EarthLabs	SPOT-CA	0.16	22	(9)	24%	-35%	-78%	-	-	-	-	-	-	0.23	0.7 x
34	MEDIASEEK	4824-JP	2.05	20	18	34%	-11%	-35%	6	-	-	-	-	-	2.04	1.0 x
TECHNOLOGY- SOFTWARE																
35	Microsoft	MSFT	427.00	3,173,595	3,199,805	2%	-28%	27%	198,270	269,433	11.9 x	98,588	145,202	22.0 x	34.06	12.5 x
36	Hewlett Packard Enterprise	HPE	18.24	23,712	32,589	10%	-24%	16%	28,496	29,882	1.1 x	5,212	5,684	5.7 x	16.47	1.1 x
37	iflytek Co	002230-CN	5.89	12,860	14,679	94%	-12%	-29%	2,731	3,642	4.0 x	262	336	43.7 x	1.00	5.9 x
38	Juniper Networks	JNPR	34.59	11,241	11,707	10%	-28%	-3%	5,301	5,200	2.3 x	1,033	1,059	11.1 x	13.79	2.5 x
39	UiPath	PATH	19.04	9,332	9,088	46%	-30%	-56%	1,059	1,558	5.8 x	72	313	29.0 x	3.54	5.4 x
40	Open Text Corp	OTEX-CA	30.45	8,309	15,846	47%	-8%	-36%	3,494	5,420	2.9 x	1,265	1,777	8.9 x	14.92	2.0 x
41	UNITY SOFTWARE INC	U	19.60	7,661	9,084	156%	-1%	-86%	1,391	1,859	4.9 x	(51)	448	20.3 x	8.16	2.4 x
42	CCC Intelligent Solutions	CCCS	11.67	7,172	7,860	15%	-15%	2%	782	970	8.1 x	305	402	19.6 x	2.90	4.0 x
43	AppFolio	APPF	234.78	5,242	8,303	9%	-41%	94%	472	806	10.3 x	19	210	39.5 x	9.37	25.1 x
44	SenseTime Group	20-HK	0.19	4,918	5,663	59%	-61%	-73%	553	-	-	(572)	-	-	0.10	1.9 x
45	C3.ai	AI	23.94	2,838	2,203	104%	-15%	-23%	267	351	6.3 x	(62)	(105)	-	7.36	3.3 x
46	Beijing Ultrapower Software	300002-CN	1.21	2,205	2,023	88%	-10%	23%	694	-	-	159	-	-	0.43	2.8 x
47	BlackBerry	BB-CA	2.86	1,689	1,704	101%	-14%	-69%	656	581	2.9 x	(71)	2	714.8 x	1.30	2.2 x
48	TRS Information Technology	300229-CN	2.05	1,632	1,574	136%	-35%	26%	132	-	-	38	-	-	0.59	3.5 x
49	SoundHound AI	SOUN	4.99	1,479	1,523	105%	-70%	-	31	77	19.9 x	(73)	(29)	-	0.48	10.5 x
50	PROS Holdings	PRO	31.19	1,466	1,634	31%	-12%	-10%	276	343	4.8 x	(15)	21	76.3 x	(1.79)	-17.4 x

Disruptive Tech – Monthly AI Update

51	Esker SA	ALESK-FR	214.26	1,295	1,233	3%	-46%	-47%	173	-	-	35	-	-	18.43	11.6 x
52	Nagarro SE	NA9-DE	90.46	1,246	1,414	14%	-26%	-59%	908	-	-	156	-	-	16.37	5.5 x
53	Beijing Fourth Paradigm Tech	6682-HK	6.63	898	2,691	122%	-29%	-	-	-	-	-	-	-	1.62	4.1 x
54	Business-Intelligence of Oriental Nations	300166-CN	0.94	863	1,105	112%	-15%	-44%	331	-	-	10	-	-	0.73	1.3 x
55	Appier Group	4180-JP	8.14	830	761	76%	-6%	-30%	146	-	-	10	-	-	1.94	4.2 x
56	Bouvet ASA	BOUV-NO	6.02	619	602	11%	-22%	-29%	299	-	-	47	-	-	0.47	12.7 x
57	Newborn Town	9911-HK	0.48	574	474	8%	-65%	4%	410	-	-	47	-	-	0.14	3.6 x
58	Shenzhen Sunwin Intelligent	300044-CN	0.75	569	616	55%	-42%	43%	-	-	-	-	-	-	0.12	6.4 x
59	Bairong, Inc.	6608-HK	1.24	514	733	53%	-17%	-7%	301	-	-	35	-	-	1.33	0.9 x
60	Linkage Software	688588-CN	1.12	450	370	136%	-12%	-51%	95	-	-	-	-	-	0.42	2.7 x
61	Beijing Deep Glint Techn	688207-CN	1.72	445	217	137%	-19%	-	-	-	-	-	-	-	1.20	1.4 x
62	Wisesoft	002253-CN	1.63	368	376	43%	-36%	-42%	-	-	-	-	-	-	0.73	2.2 x
63	SELVAS AI Inc	108860-KR	12.54	337	372	73%	-11%	31%	-	-	-	-	-	-	3.42	3.7 x
64	Sidetrade SA	ALBFR-FR	186.76	274	243	2%	-26%	2%	40	-	-	4	-	-	24.00	7.8 x
65	QingCloud Techn	688316-CN	5.11	244	239	99%	-34%	-35%	-	-	-	-	-	-	0.50	10.3 x
66	CyberLink	5203-TW	2.92	230	164	23%	-13%	-9%	55	66	2.5 x	8	-	-	1.81	1.6 x
67	Datasection	3905-JP	11.30	194	196	80%	-84%	283%	14	-	-	5	-	-	0.72	15.6 x
68	eCloudvalley Digital Techn	6689-TW	2.81	191	129	100%	-3%	-71%	293	-	-	7	-	-	1.34	2.1 x
69	Computer Institute of Japan	4826-JP	2.83	189	107	139%	-21%	57%	159	-	-	-	-	-	1.60	1.8 x

Disruptive Tech – Monthly AI Update

70	ABEJA,Inc.	5574-JP	20.28	186	163	256%	-16%	-	-	-	-	-	-	-	2.61	7.8 x
71	Perfect Corp.	PERF	2.13	181	60	148%	-1%	-78%	47	63	1.0 x	13	-	-	1.38	1.5 x
72	JIG-SAW, Inc.	3914-JP	24.87	168	158	94%	-8%	-54%	23	-	-	-	-	-	2.69	9.2 x
73	Strait Innovation Internet	300300-CN	0.24	163	228	243%	-9%	-67%	-	-	-	-	-	-	0.03	7.4 x
74	JLK	322510-KR	10.05	163	170	196%	-41%	60%	-	-	-	-	-	-	0.41	24.5 x
75	Headwaters	4011-JP	83.50	157	151	64%	-53%	314%	12	-	-	-	-	-	3.54	23.6 x
76	Laboro.AI	5586-JP	9.58	152	139	113%	-54%	-	-	-	-	-	-	-	0.92	10.4 x
77	Cyber Security Cloud	4493-JP	15.22	144	134	60%	-16%	6%	17	-	-	-	-	-	0.88	17.3 x
78	Almawave SpA	AIW-IT	4.46	132	127	30%	-10%	-19%	52	-	-	10	-	-	2.51	1.8 x
79	AI inside	4488-JP	32.23	129	109	135%	-13%	-37%	28	-	-	5	-	-	7.99	4.0 x
80	Spyrosoft S.A.	SPR-PL	116.86	128	135	26%	-26%	119%	-	-	-	-	-	-	19.02	6.1 x
81	HEROZ	4382-JP	8.22	124	113	123%	-2%	-28%	21	-	-	4	-	-	2.11	3.9 x
82	pluszero,	5132-JP	15.84	121	116	38%	-37%	-	-	-	-	-	-	-	0.80	19.8 x
83	Avant Technologies	AVAI	0.99	84	85	100%	-93%	-1%	-	-	-	-	-	-	(0.02)	-58.5 x
84	Loihde Oyj	LOIHDE-FI	13.64	78	71	25%	-18%	-25%	131	147	0.5 x	14	12	6.2 x	18.78	0.7 x
85	LivePerson	LPSN	0.73	64	452	784%	-38%	-98%	515	298	1.5 x	(16)	19	23.4 x	0.22	3.3 x
86	Asteria Corporation	3853-JP	3.43	60	52	84%	0%	-63%	25	-	-	-	-	-	2.11	1.6 x
87	VAIV Co.	301300-KR	4.75	59	79	78%	-11%	-79%	-	-	-	-	-	-	3.75	1.3 x
88	Ridge-i	5572-JP	14.50	55	44	81%	-35%	-	-	-	-	-	-	-	3.39	4.3 x

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89	TI Cloud	2167-HK	0.30	52	5	445%	-77%	-	56	-	-	(1)	-	-	0.38	0.8 x
90	Aidemy	5577-JP	10.87	43	36	269%	-19%	-	12	-	-	-	-	-	1.75	6.2 x
91	Intumit	7547-TW	1.36	39	29	19%	-17%	-6%	-	-	-	-	-	-	0.55	2.5 x
92	EDGE Technology	4268-JP	3.52	38	34	140%	0%	-	-	-	-	-	-	-	0.40	8.8 x
93	monoAI technology	5240-JP	3.46	36	31	260%	-20%	-	11	-	-	-	-	-	0.68	5.1 x
94	Brains Technology	4075-JP	5.51	31	22	118%	-32%	-70%	7	-	-	-	-	-	1.74	3.2 x
95	GLAD CUBE	9561-JP	3.20	26	21	68%	-5%	-	11	-	-	-	-	-	1.05	3.0 x
96	SecondXight Analytica	5028-JP	3.00	25	21	99%	-18%	-	7	-	-	-	-	-	0.54	5.6 x
97	WebComm Technology	6865-TW	1.53	22	21	86%	-4%	-67%	-	-	-	-	-	-	0.74	2.1 x
98	Presto Automation	PRST	0.17	20	76	3333%	-18%	-98%	-	-	-	-	-	-	(0.57)	-0.3 x
99	Duos Technologies Group	DUOT	2.36	18	20	205%	-18%	-54%	15	17	1.2 x	(6)	(4)	-	0.75	3.1 x
100	SenSen Networks	SNS-AU	0.02	13	13	163%	-29%	-85%	6	-	-	(5)	-	-	0.01	2.8 x
101	sMedio	3913-JP	4.36	10	4	70%	-19%	-23%	6	-	-	-	-	-	3.10	1.4 x
102	Orchasp	532271-IN	0.05	8	11	75%	-49%	-57%	-	-	-	-	-	-	0.09	0.5 x
103	VIQ Solutions	VQS-CA	0.16	8	20	228%	-48%	-93%	46	-	-	(3)	-	-	0.10	1.6 x
104	Munic SA	ALMUN-FR	0.54	5		521%	-2%	-83%	23	-	-	2	-	-		-
105	infinitii ai	IAI-CA	0.03	4	5	170%	-44%	-25%	-	-	-	-	-	-	(0.00)	-6.7 x
106	XPON Technologies Group	XPN-AU	0.01	3	2	623%	-9%	-94%	9	-	-	(3)	-	-	(0.00)	-3.3 x
107	VSBLTY Groupe Technologies Corp.	VSBY-CA	0.06	2	2	1599%	-13%	-99%	2	-	-	-	-	-	(0.05)	-1.3 x

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108	Genesis Electronics Group	GEGI	0.00	0	3	6100%	0%	-94%	-	-	-	-	-	-	-	-
109	Kubient	KBNT	0.00	0	(12)	34990 0%	-100%	100%	2	-	-	(13)	-	-	0.72	0.0 x
OTHERS																
110	Coinbase Global	COIN	218.86	43,719	50,646	30%	-79%	-13%	3,194	5,784	8.8 x	(371)	2,590	19.6 x	32.89	6.7 x
111	Block	SQ	66.62	37,077	38,575	31%	-42%	-59%	17,532	25,618	1.5 x	991	2,890	13.3 x	30.74	2.2 x
112	Temenos AG	TEMN-CH	63.92	4,805	5,202	62%	-9%	-52%	950	1,067	4.9 x	366	428	12.2 x	9.95	6.4 x
113	nCino	NCNO	30.89	3,532	3,497	21%	-31%	-44%	408	542	6.5 x	9	97	35.9 x	9.23	3.3 x
114	Upstart Holdings	UPST	23.16	2,035	2,790	213%	-14%	-85%	842	599	4.7 x	37	(14)	-	6.98	3.3 x
115	MTI	9438-JP	4.78	293	216	12%	-24%	-1%	187	-	-	-	-	-	1.74	2.7 x
116	Roadzen	RDZN	3.85	263	272	342%	-30%	-	-	-	-	-	-	-	(0.01)	-272.3 x
117	Ever Fortune.AI	6841-TW	2.58	254	206	84%	0%	-50%	-	-	-	-	-	-	0.61	4.2 x
118	SOS	007VFG-E	0.84	253	173	1026%	-3%	-99%	-	-	-	-	-	-	0.70	1.2 x
119	Imagesat International (	ISH-IL	3.77	230	221	8%	-42%	-	-	80	2.8 x	-	34	6.4 x	2.64	1.4 x
120	Qudian	0HF1H0-E	1.72	217	(1,089)	51%	-26%	63%	84	-	-	-	-	-	12.02	0.1 x
121	FreeBit	3843-JP	9.14	214	176	50%	-28%	22%	335	-	-	-	-	-	3.49	2.6 x
122	Rockontrol Technology	688051-CN	2.62	202	201	135%	-26%	-65%	-	-	-	-	-	-	1.45	1.8 x
123	Deepnoid	315640-KR	6.17	138	121	100%	-49%	-15%	-	-	-	-	-	-	0.83	7.5 x
124	Aiforia Technologies Oyj	AIFORIA-FI	4.28	111	102	33%	-22%	-28%	2	-	-	(9)	-	-	0.74	5.8 x
125	Broadband Tower	3776-JP	1.79	110	114	13%	-57%	7%	-	-	-	-	-	-	0.87	2.1 x

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126	Laon People	300120-KR	4.46	93	104	60%	-13%	-43%	-	-	-	-	-	-	1.49	3.0 x
127	Acer Medical	6857-TW	5.12	78	71	88%	-51%	56%	-	-	-	-	-	-	0.45	11.4 x
128	ContextVision AB	CONTX-NO	0.55	42	37	59%	-4%	-71%	11	13	2.8 x	5	4	8.8 x	0.10	5.4 x
129	Renalytix Plc	RENX-GB	0.25	38	43	693%	-49%	-97%	3	5	8.2 x	(50)	-	-	(0.09)	-2.7 x
130	Silver Egg Technology	3961-JP	6.99	21	13	99%	-27%	-17%	9	-	-	-	-	-	3.00	2.3 x
131	Marpai	MRAI	1.98	20	11	75%	-83%	-89%	24	43	0.3 x	(20)	(3)	-	(1.41)	-1.4 x
132	Mynet	3928-JP	2.12	18	19	66%	-14%	-58%	78	-	-	-	-	-	0.99	2.1 x
133	Institution for a Global Society	4265-JP	2.64	12	7	63%	-12%	-82%	5	-	-	-	-	-	1.43	1.8 x
134	SATO Technologies	SATO-CA	0.23	12	15	111%	-13%	-69%	8	-	-	-	-	-	0.11	2.1 x
135	StreaksAI PLC	STK-GB	0.01	3	1	50324 %	26019%	-94%	-	-	-	-	-	-	0.00	1.9 x

Data updated as of 2024/05/23.

*Companies for which quarterly NTM and LTM data is not available, yearly numbers are used.

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