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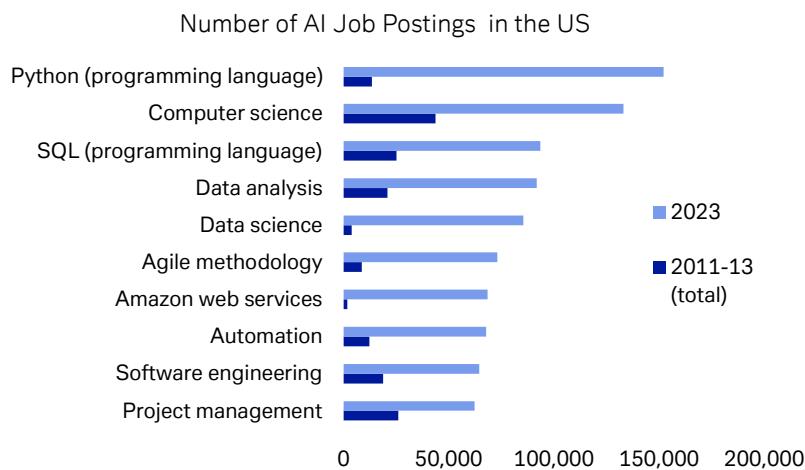
Latest in AI: Antitrust inquiries; chips at Computex; Tesla, OpenAI leadership

There are only a handful of people in the world who know how to build and train sophisticated large AI models. These engineers are highly sought after and have been poached by the dominant AI companies. This inherent concentration risk is beginning to result in high-profile regulatory investigations, as we discuss in this newsletter.

Companies are hungry for engineers who can build, run and monitor AI. Hence the soaring number of job postings in the US looking for specialised skills such as Python, a versatile programming language than can also be used in machine learning. There were more than 150,000 job postings in 2023 alone, more than ten times as many as during 2011-13 in total.

In this edition of 'Latest in AI' we also discuss the importance of the rapid pace of chip unveilings from Nvidia, AMD and Intel at the annual Computex trade show in Taiwan. Furthermore, we analyse the corporate leadership issues sparked by Elon Musk at X and Tesla, and OpenAI's Sam Altman.

Figure 1: In 2023, there were more than 150,000 AI job postings for engineers that know Python, more than ten times a decade ago between 2011-13



Source : Stanford 2024 AI Index Report, Deutsche Bank

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Regulation and policy

US regulators step up antitrust investigations into Nvidia, Microsoft and OpenAI

What happened?

- The US Department of Justice (DoJ) and the Federal Trade Commission (FTC) have agreed to parcel out investigations into **potential anticompetitive behaviour** at Nvidia, Microsoft and OpenAI. This comes as **Treasury Secretary Janet Yellen** warned that concentration among large AI model makers, which also provide data, and cloud services, could magnify the risks of relying on a small group of providers.
- The DoJ will focus on **Nvidia's selling practices**, including its chips platforms. Meanwhile, the **FTC will continue to focus** on the partnership between **Microsoft and OpenAI**, after the tech giant wove the market-leading large language model (LLM) GPT-4 into its own products.
- The **FTC is separately inquiring** into the \$620m 'acqui-hire' of Inflection AI **co-founder Mustafa Suleyman and much of his team** to lead the AI division at Microsoft. The UK's Competition and Markets Authority (CMA) started an inquiry into the deal back in April.

This matters because:

- The agreement between the DoJ and the FTC signals a new phase of more structured antitrust enforcement to bring the fast-evolving AI market to heel. **In January, the FTC began looking on its own into the Microsoft/OpenAI deal** for ties that "could undermine fair competition".
- So far, investigations have been largely ad hoc. Examples include the **FTC's review of the arrangement by which Anthropic has raised \$4bn from Amazon and \$2.3bn from Google**. The **CMA is also investigating** Amazon's investment in Anthropic, which was started by ex-OpenAI employees.
- **Nvidia**, the main supplier of the graphics processing units (GPUs) critical to AI development, **has not until now been on US regulators' radar**. But its offices in France were reportedly raided last year by the local competition authority.
- Financial markets are becoming increasingly **tech heavy**, so any dent to their prospects could have significant reverberations. On Wednesday, **Nvidia overtook Apple** to become the world's second-largest company as its market value rose above \$3tn. The three largest companies – **Microsoft, Nvidia, Apple** – now have a collective value of \$9.2tn, **around 50% higher than a year ago**. Together with Alphabet and Meta, the **five Big Tech firms** make up about a **quarter of the S&P 500**.

Our view:

- Concerted investigations that result in lawsuits could spark a chain reaction. When regulators joined forces in a similar way in 2019 to pursue Apple, Amazon, Google and Meta, **all four companies were eventually sued** on antimonopoly grounds.
- It is possible that some inquiries may result in penalties, or the voluntary or involuntary suspension of deals between Big Tech firms and AI challengers.



That could hurt the **AI challengers** that need Big Tech's cloud and funding, and **cut off a source of talent and innovation for Big Tech**. It could also create gaps for other players – old and new – to break through. The once-mighty **Cisco** last week said it **has \$1bn to invest** in AI start-ups.

- The outcome of inquiries in a rapidly developing field, such as AI, can be hard to predict. In April, the **European Commission decided not to proceed** with a formal competition probe into Microsoft's reported \$13bn investment in OpenAI. Last month, the **UK competition authority abandoned** its review of Microsoft's \$16m investment in France's Mistral.
- While **Nvidia** is widely known for its chips, competitors in the US are eyeing the **platform** that some say is its "**secret sauce**". A group of companies led by **Qualcomm, Intel and Alphabet's Google** is working on an **open-source challenger** to Nvidia's proprietary CUDA platform.
- **Regulating AI is** – as US President Bill Clinton said of regulating the internet a generation ago – "**like nailing Jell-O to a wall**". Just as regulators produce a comprehensive framework, such as the EU's AI Act, or find an approach to clamp down on individual company practice, like the US regulators, the goalposts move. For instance, **LLMs may already be yesterday's story**, according to Yann LeCun, Chief AI Scientist at Meta, who told young developers recently that they should instead focus on next-generation systems that "lift the limitations of LLMs".

Technology

Nvidia, AMD, Intel, Qualcomm unveil new chips at key technology event in Taiwan

What happened? Nvidia, AMD, Intel and Qualcomm have revealed more powerful chips and updated their AI strategies at the annual Computex technology trade show in Taipei, adding to the fast-paced rollout of semiconductors that support AI growth.

- **Nvidia** unveiled for next year '**Blackwell Ultra**' with improved memory and performance as an upgrade to 'Blackwell' announced just two months ago and which hits the market later this year. Nvidia is also developing '**Rubin**' for 2026, a next-generation chip and platform to succeed Blackwell. Our company analysts said [here](#) in their Computex review that the **mention about Rubin is "uncharacteristically early"** and "**slightly unusual**".
- **AMD** has unveiled different types of chips that position the company across different layers of AI infrastructure, **from data centers to PCs**. The '**Ryzen**' chip is powerful enough to be used in the new Windows Copilot+ PCs as it allows for AI tasks to be executed locally on a device. We covered the Microsoft AI PCs announcement in an [earlier edition](#). Meanwhile, the '**Instinct MI325X**' chip is an AI accelerator for LLMs. It is due to be released in the fourth quarter and updated in both 2025 and 2026.
- **Intel** has revealed the first of several '**Xeon 6**' chips meant for data centres with large AI workloads. The company also announced an aggressive pricing strategy for some of its top GPUs for training and running generative AI models. For example, a kit with eight '**Gaudi 3 AI accelerators**' will cost **\$125,000**, which it said is "**estimated to be two-thirds the cost** of comparable competitive platforms."
- **Qualcomm**, currently the only provider of **neural processing units (NPUs)** to Microsoft's Windows Copilot+ PCs, has reiterated how the **Snapdragon X Elite** is made for personal devices.



This matters because:

- There is **intense competition** among the mere handful of semiconductor firms that can produce state-of-the-art chips for training and running large AI models. Big tech firms in turn are looking to reduce their dependence on a small number of chip providers and develop their own processors.
- The **fast pace of chip unveilings** comes as semiconductor companies **ramp up manufacturing** plants. Among other announcements, **NXP Semiconductors** said it will build a \$7.8bn plant for chip wafers in Singapore together with a company that is linked to Taiwan Semiconductor Manufacturing Company (TSMC). Projects like these are capital-intensive, hence why **Intel** sold a stake in its new plant in Ireland to Apollo Global Management for \$11bn to be able to invest in more manufacturing.

Our view:

- **AI announcements are running farther ahead of releases** as producers capitalise on the continuing wave of tech euphoria. The strategy is not confined to chip makers. OpenAI unveiled its cutting-edge video-generation model **Sora in February** with impressive demos, but without a release date in sight. OpenAI also has yet to widely release the full live video capabilities of the upgraded GPT-4o chatbot that it launched four weeks ago.
- There can be **more than one winner** in the semiconductor market because there is more than just one type of chip used for generative AI. Large and expensive **GPUs** are a type of AI accelerator used in data centers. Personal computers can use the smaller, but increasingly popular, **NPUs** which are designed specifically for deep learning neural networks. The central processing units (**CPUs**) perform general purpose processing tasks and are used with other chips.
- Chip companies can target customers from different sectors at **different price points**. While major 'hyperscale' cloud providers are buying state-of-the-art, expensive GPUs from Nvidia, other companies such as healthcare providers, may be content with chips that cost less but have a specific purpose.
- While tech companies are seeking to become somewhat self-reliant on chips, they are developing chips specifically suited for certain tasks. For instance, Apple's in-house M2 Ultra chips for data centers are suited for running large AI models, a process known as 'inferencing'. Yet, the company **still relies on Nvidia chips to train its models**. And even with vertical integration, companies rely on someone else to design and produce the chips.
- This week, major unveilings continue with **Apple's annual developer conference** on Monday focused mostly on AI. Among the key announcements is that **Siri** will be powered by its new "**Apple Intelligence**" technology as **OpenAI's ChatGPT will be integrated** into Apple devices. Also at the conference, the company highlighted that it will prioritise **user privacy**. The announcements were **largely expected** and shares in Apple closed down two per cent, having increased by 13 per cent since May 1 and prior to the conference.



Companies

AI corporate governance in focus amid questions about potential Tesla/X and OpenAI conflicts of interest

What happened?

- Elon Musk reportedly has asked Nvidia to **prioritise GPU shipments** to his privately owned social media company X that were **originally meant for Tesla**, where he is the CEO. Mr. Musk has redirected **12,000 Nvidia H100 GPUs**, worth half a billion dollars, to X, with Tesla only due to receive an equivalent number at a later date, according to media reports of emails and memos circulated at Nvidia.
- There are no official comments from Nvidia or Tesla, but Mr. Musk wrote on X that Tesla's **shipments were delayed because "they would have just sat in the warehouse"**. X is closely associated with xAI, whose AI assistant is available for X premium subscribers.
- Mr. Musk is championing the AI credentials of Tesla, saying on its first-quarter earnings call in April that it will have 85,000 GPUs by the end of the year, compared with the 35,000 it has now. Yet that statement "conflicts with bookings," according to an Nvidia email cited by CNBC.
- **OpenAI CEO Sam Altman** is being increasingly scrutinised for what may be **\$2.8bn in personal investments** in more than **400 tech companies**, some of which are AI companies. For example, **OpenAI** recently entered a partnership with **Reddit**, in which Mr. Altman owns shares through several investment funds. Reddit stock jumped 10% on the announcement.

This matters because:

- Silicon Valley remains a relatively small pond dominated by a few big fish. If an executive has multiple stakes across several companies which compete in the same industry – or for the same resources – it will inevitably be viewed by some as a **potential conflict of interest**. This is particularly true when the technology has as high a barrier to entry as cutting-edge AI.
- Given the rapid pace of AI development and high expectations for a payoff from lofty investments in key semiconductors, the **timing of shipments is more than just a question of logistics**.
- **Tesla shareholders**, who have seen the company's stock price more than halve since its peak in 2021, **may be concerned** by any suggestion that **the company is not getting the AI chips they expect**. Mr. Musk has done little to allay their concerns, previously saying he "**would prefer to build products outside of Tesla**" after selling shares in Tesla to buy X. He is also reportedly switching employees between the companies he owns.
- **Mr. Altman** has become an important figure in the AI industry and is a powerful voice at the Microsoft table. The fact that he has **no stake in OpenAI**, and takes a **relatively small salary of \$65,000**, has raised questions over where his allegiance lies.

Our view:

- Mr. Musk, one of the richest men in the world, is a talismanic figure in tech. **The future of the companies he owns or has stakes in hangs upon the attention he devotes to them**. xAI, for instance, recently secured \$6bn in funding and is poised to benefit from the supercomputer that he is building, said to feature a "record-breaking" 100,000 H100 GPUs, according to



reports citing Nvidia internal communications.

- Mr. Musk reportedly **owns 60% of xAI**, making it a significant area of focus. By contrast, he has a **13% stake in Tesla** and has previously said he would be uncomfortable growing it “to be a leader in AI and robotics” unless he owned about 25% of the voting rights.
- Mr. Altman is taking **steps to dissipate concerns** around his web of ownership. For example, since late March, he **no longer owns the venture capital fund that funds OpenAI**. More recently, Mr. Altman was **accused** by former board member Helen Toner **of having misled the board about his ownership**. In addition, two weeks ago, he and his husband signed the non-legally binding Giving Pledge to **donate a large portion of their wealth**.



Appendix 1

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