

Chinese AI groups use cloud services to evade US chip export controls

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ABSTRACT (ENGLISH)

Chinese artificial intelligence groups are skirting export controls to access high-end US chips through intermediaries, revealing potential loopholes in Washington's blockade of cutting-edge technology to the country. AI surveillance groups targeted by US sanctions have found ways to obtain restricted technology by using cloud providers and rental arrangements with third parties, as well as purchasing the chips through subsidiary companies in China. iFlytek, a state-backed voice recognition company blacklisted by Washington in 2019, has been renting access to Nvidia's A100 chips, which are critical in the race to develop groundbreaking AI applications and services, according to two staffers with direct knowledge of the matter. Last October, Washington imposed unilateral export controls that barred US companies from selling advanced chipmaking equipment and high-end semiconductors including the A100 to Chinese groups, widening its trade restrictions from just specific blacklisted companies. "iFlytek can't purchase the Nvidia chips, but it's not a problem because it can rent them and train our data sets on other companies' computer clusters," said an executive familiar with the AI firm's operations.

FULL TEXT

Chinese artificial intelligence groups are skirting export controls to access high-end US chips through intermediaries, revealing potential loopholes in Washington's blockade of cutting-edge technology to the country.

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Facial recognition group SenseTime, sanctioned at the same time as iFlytek, has used intermediaries to purchase banned components from the US, according to three senior employees familiar with the situation.

Privately controlled cloud computing companies also provide access to high-end US chips. AI-Galaxy, a Shanghai-based cloud computing company founded by former employees from Nvidia and AliCloud, charges \$10 for one-hour access to eight of its A100 Nvidia chips.

The ability of Chinese AI groups to continue accessing Nvidia's crucial high-end chips and other cutting-edge technology underlines the challenge the US faces in enforcing its trade restrictions against Chinese companies. Last October, Washington imposed unilateral export controls that barred US companies from selling advanced chipmaking equipment and high-end semiconductors including the A100 to Chinese groups, widening its trade restrictions from just specific blacklisted companies.

"iFlytek can't purchase the Nvidia chips, but it's not a problem because it can rent them and train our data sets on other companies' computer clusters," said an executive familiar with the AI firm's operations.

"It's like a car rental system. You can't take the chips out of the facility. It's a huge building with a computer cluster, and you buy time on CPUs [central processing unit] or GPUs to train the models," the person said.

While iFlytek cannot own the chips outright under US export controls, two employees said the rental system was a good, albeit more expensive, alternative. An engineer at iFlytek said the company "rents the chips and equipment on

a long-term basis, which is effectively the same as owning them”.

iFlytek was banned from directly buying these semiconductors after Washington blacklisted it for its alleged role in providing technology for state surveillance of Uyghur Muslims in Xinjiang.

In some cases, SenseTime bought advanced chips directly through its own subsidiaries that are not on Washington’s “entity list”, according to three senior employees familiar with the situation.

SenseTime said it “strictly complies with various domestic and foreign trade-related laws and regulations” and that the group had developed a programme to ensure it “meets trade compliance standards”.

iFlytek did not respond to a request for comment.

A US Commerce Department spokesperson said its Bureau of Industry and Security “vigorously investigates potential violations of export controls but does not comment on specific allegations”.

An export control expert in Washington said US export regulations did not cover cloud providers, even if restricted chips were used. They added there was a violation only if the technology was harnessed to build weapons of mass destruction.

Local governments in China rushed to help the industry stockpile high-end chips in advance of Washington unveiling severe export controls last October.

One person close to iFlytek said the US export restrictions prompted the proliferation of state-backed computer clusters, which stockpiled Nvidia chips and rented out access of the technology to blacklisted companies.

In addition, a government official in Zhejiang noted that “several places [local governments and companies] have built or are building AI computing centres, which provide cloud rental services for enterprises. This is part of the new infrastructure supported by the national policy.”

“All AI companies use and stockpile advanced chips like Nvidia A100, including us,” said an engineer from SenseTime, adding: “We do our compliance and legal work very thoroughly and carefully.”

“China’s AI industry faces huge risks because of US sanctions,” said one individual close to SenseTime. “We expect the US to impose more sanctions on Chinese AI firms, their suppliers and clients. We need to make sure our supply chain and sales remain steady,” the person added.

Private cloud providers have seen soaring demand for Nvidia’s A100 chips, the same used in generative AI models such as OpenAI’s ChatGPT.

An executive at a US tech giant in China said they continued to offer local companies access to cloud computing running on A100 chips and the offering had attracted a large number of start-ups trying to clone ChatGPT. The company’s US legal team was initially wary of continuing to offer cloud services running on A100s chips but ultimately decided it did not contravene export controls.

Even though US export controls do not explicitly ban access to the chips through cloud service providers, some companies are still taking measures to obscure their identity.

An executive at a cloud services start-up in Shenzhen said they had seen demand for A100 chips surge from “strange” companies that masked their real identity behind shell companies.

“Our counterparts told us that we should never get serious about finding out who’s behind them,” the executive said.

Nvidia said that “while we can’t control every future use or downstream sale of our products, we require our distributors to follow all US export rules and sell only to appropriate commercial, consumer, and academic customers that use our products for beneficial purposes”.

Additional reporting by Ryan McMorro and Sun Yu in Beijing, and Tim Bradshaw in London

Eleanor Olcott and Qianer Liu in Hong Kong and Demetri Sevastopulo in Washington

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