IEEE Spectrum

China's AI-Tocracy Quells Protests and Boosts AI Innovation - IEEE Spectrum 2/21/25, 10:33

NEWS AI

China's AI-Tocracy Quells Protests and Boosts AI Innovation

Local police forces' use of facial recognition is driving an AI tech rush

BY LUCAS LAURSEN 22 AUG 2023

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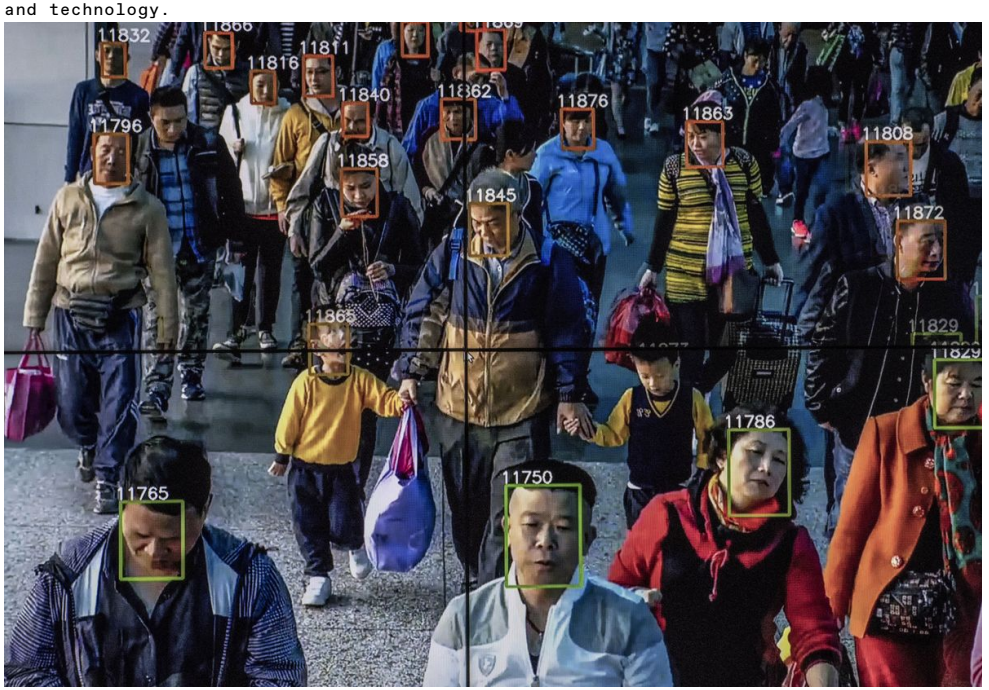

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The Cyberspace Administration of China (CAC) would

I like your opinion on how it should regulate facial recognition. The agency issued draft rules on 8 August with a one-month comment period. The rules follow several years of court battles over private companies' widespread use of the technology: Public toilets and zoos have sparked debate and lawsuits over their use of facial-recognition technology.

However, the main driver of the tech so far may be public security forces, according to recent studies. And even under the new rules, security forces will not need permission to identify individuals with facial recognition. Indeed, while people may find it humorous or galling when a toilet paper dispenser requires facial recognition, a police force's use of facial recognition to identify protestors and quell local protests is a more weighty and controversial matter.

In research based on six years of Chinese municipal public procurement records, a quartet of economists has examined the relationship between civil unrest, local police purchases of facial-recognition technology, subsequent protests, and further technological innovation. "We see a strong relationship with unrest," says Martin Beraja, one of the researchers and an associate professor of economics at MIT. "It predicts more [facial recognition technology] procurement."

In a *Quarterly Journal of Economics* paper published this year, Beraja and colleagues documented what happened after facial-

Beraja and colleagues documented what happened after facial-recognition purchases by Chinese municipal agencies. They report that buying more facial-recognition technology predicts less future unrest. In other words, the easier it is for the police to identify protestors, the less likely it is that people will protest in public.

The companies that sold those tools to the police also fared better on metrics of innovation, such as new software registered with the central government and international software exports. They may be doing better because they had access to huge amounts of real-world data, the authors surmise. Another paper by the same authors, published last year in the *Review of Economic Studies*, investigated whether a company's access to government data gave it an advantage over competitors. In that study, the researchers found that companies working with larger surveillance-camera networks, with presumably more data, performed better in subsequent innovation metrics.

The finding that local police purchasing of facial-recognition technology both suppressed protests and improved the innovation of participating technology companies points to a loop that might reinforce both autocratic government and artificial-intelligence innovation.

That conclusion undermines one way of thinking about the interplay between economic development and governance. "The

conventional view is that growth and autocracy don't go hand in hand," Beraja says, because "as income grows, people ask for more quote unquote liberal institutions."

In that conventional model, data-hungry governments eventually respond to resistance from citizens. Governments restrict how much they and private companies can invade citizens' privacy. Citizens then feel more confident to continue shaping their government's policies, including through public protest. Companies also innovate better because their workers, leaders, and investors are less likely to fear harm if their government is democratic and not autocratic.

In the model Beraja and his coauthors call "AI-tocracy," the development of AI-powered tools for repression—in this case, surveillance cameras and facial-recognition software—outpaces the ability of individuals to shape their government's use of such tools. Police can exert more control over citizens, and companies that participate innovate faster, thanks to their access to training data. "The point we're trying to make is that [facial recognition] is also a good technology for repression," Beraja says.

What's Happening With Facial Recognition Laws Around the World

Opinions about the technology vary around the world. A

Government Information Quarterly paper earlier this year reported that Chinese respondents to a 2019 online survey were more open to facial-recognition technology than were American, British, or German respondents. Police use of facial recognition in the United States has involved racially disproportionate cases of mistaken identity, including the recent arrest of an 8-months-pregnant woman for carjacking, and many jurisdictions restricted police use of facial recognition early on.

Yet in the United States, some state legislatures have begun passing more nuanced laws that do allow police use of facial-recognition software for still images, for example, if they meet certain National Institute of Standards Technology (NIST) standards. These lawmakers may be in step with a plurality of Americans. A Pew survey last year that reported that 46 percent of respondents considered police use of facial recognition a good idea, versus 27 percent who thought it was a bad idea and 27 percent who weren't sure.

Civil society organizations around the world have pushed back against routine use of facial recognition, citing its potential for eroding privacy. Artist Paolo Cirio collected 1,000 images of French police officers' faces in 2020, publishing them in various formats, including life-size posters glued to walls around Paris. Chinese activists also distributed personal details of thousands of Shanghai police officers found in an earlier leak. If police

departments want buy-in on facial recognition from citizens, a paper published last year in the *International Journal of Police Science and Management* suggests that they include citizens in their facial-recognition policymaking.

Technologists will also have to decide how to navigate access to data, which can contribute to repressive policies but also holds potential for innovation, says economist Noam Yuchtman, one of the authors of the AI-tocracy paper. "We are trying to get people to think about getting away from this privacy/data trade-off," he says. "There can be a world with more privacy and more data."

"Reinforcing autocracy can be really bad for innovation in other ways," Yuchtman says. For example, innovative people may flee autocracies, and foreign investors may avoid them. An economy dominated by developing tools for repression may also neglect other necessary technologies in an effect economists call crowd-out. It's a bit like bodybuilding: You don't really want to skip leg day in favor of more bicep toning because you'll throw off the balance between all the connected muscles in your body.

On the other hand, access to huge government databases of security footage may improve not just facial-recognition technology but also adjacent technology, such as machine vision for self-driving cars. If so, that could strengthen the economic position of AI-powered autocracies, Yuchtman says. "An interesting open question for the engineers is to what extent does

interesting open question for the engineers is to what extent does improvement in one domain of AI [such as facial recognition] spill over into other domains of AI."

The complementary question is to what extent innovation in other forms of AI suppresses democracy and reinforces autocracy in settings beyond China's local police prefectures. "That's a qualitative question," Yuchtman says. "The answer will need to come from future work."