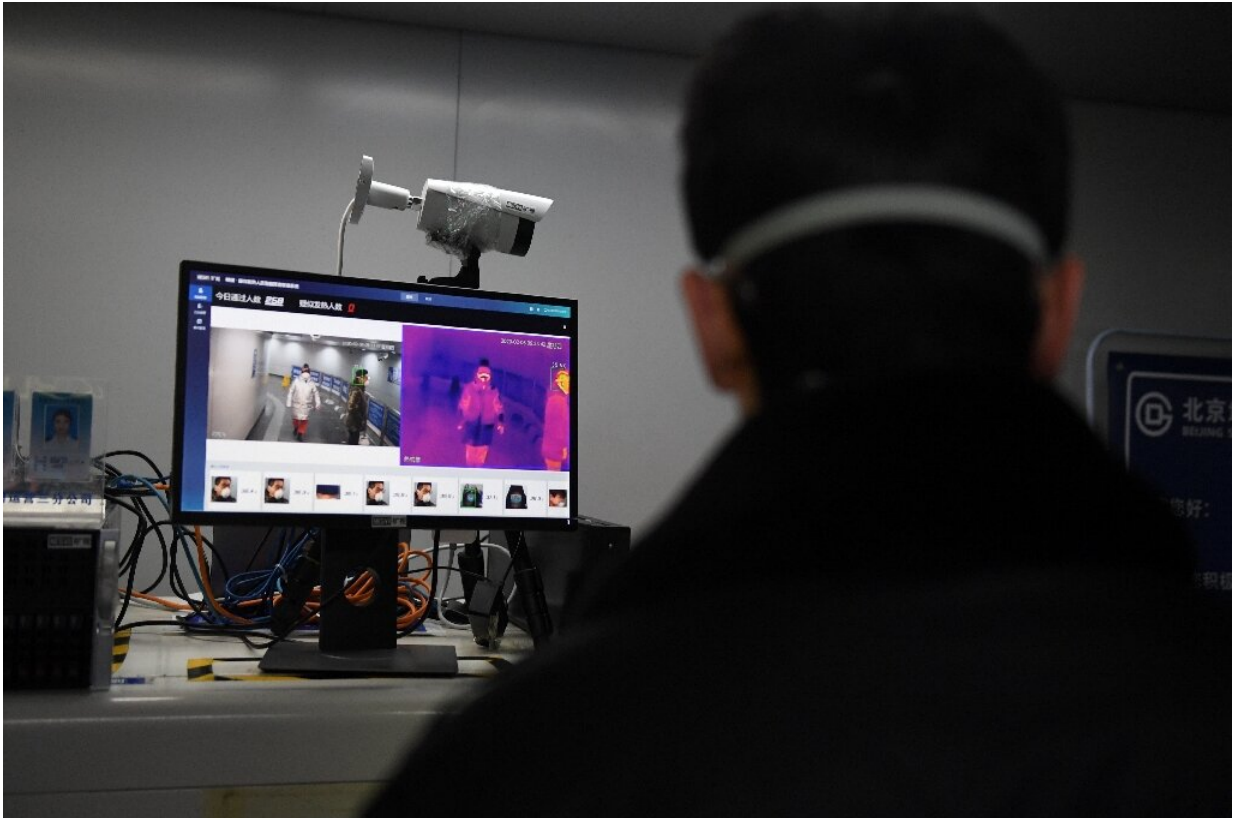


# China turns to AI, data in fight against virus

February 8 2020, by Eva Xiao

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An AI-powered system developed by Megvii screens commuters for fever at a metro station in Beijing

A man who had travelled to Wuhan—the central city at the heart of China's coronavirus crisis — was surprised when police showed up at his door after he returned home, asking to check his temperature.

The man, who had quarantined himself at home in Nanjing, eastern Jiangsu province, said he had not told anyone about his recent trip to the city.

But by trawling through travel data from Wuhan, local authorities were able to identify him and dispatch officers to his home last week, according to a newspaper article posted by the Nanjing government.

As Chinese authorities race to contain the spread of a new virus, which has infected more than 34,000 people and killed more than 700 in China, Beijing is turning to a familiar set of tools to find and prevent potential infections: data tracking and artificial intelligence.

Several Chinese tech firms have developed apps to help people check if they have taken the same flight or train as confirmed virus patients, scraping data from lists published by state media.

In Guangzhou, southern Guangdong province, robots at one public plaza have even been deployed to scold passersby who are not wearing masks, according to the state-run Global Times.

And in Beijing, one neighbourhood committee responsible for an apartment complex of about 2,400 households said they used flight and train data to keep track of everyone's recent travel record.



Besides posters advising on measures to take, China has turned to hi-tech and big data in the battle against the coronavirus

"Use big data technology to track, screen priority (cases), and effectively forecast the development of the epidemic in real time," China's National Health Commission (NHC) told local governments in an online statement Tuesday.

"Strengthen the information link between... public security and transportation, and other departments," it said, urging them to share train, flight, communication, and medical data.

## Fever tech

As Chinese authorities search for potential infections, a point of focus has been detecting fevers, a common symptom of the disease.

While neighbourhoods and office buildings rely primarily on hand-held thermometers, public transport hubs are also trialling fever detection systems that use artificial intelligence and infrared cameras.

In Beijing, a system developed by Chinese search giant Baidu screens travellers at the Qinghe railway station using infrared and face detection technology, which automatically photographs each person's face.

If someone has a body temperature of 37.3 degrees Celsius (99 degrees Fahrenheit) or above, the system sets off an alarm—prompting a secondary check by station staff.



In some places, such as Jiuduhe north of Beijing, residents have sealed off their village in an effort to prevent the spread of the coronavirus

On Thursday, railway personnel, clutching red-and-white megaphones, ordered passengers arriving from northern Shanxi province to slow down as they passed by Baidu's system.

According to the company, its system can check more than 200 people a minute, far faster than the thermal scanners used at airports.

Megvii, an AI firm that was blacklisted by the US in October over alleged rights abuses, has developed a similar system, which is currently being used at a subway station in Beijing.

"Having a team of nearly 100 people working together remotely from home hasn't been easy," said a spokesperson at Megvii in an emailed statement.

"All of them are working around the clock during Lunar New Year public holidays," said the company, adding that the team had to optimise its models to "effectively detect temperature with only the forehead exposed."

## **Five million travellers**

Besides fever detection, Chinese tech firms have raced to develop a wide variety of services to help with epidemic control efforts, from preparing drone deliveries of medical supplies to mapping the spread of the virus from Wuhan.



Residents monitor the entrance to a compound in Beijing. Some neighbourhoods are prompting residents to scan a QR code to fill out personal details, including their phone number and hometown address

Although the city has been under effective quarantine since January 23, some five million travellers left Wuhan during the Lunar New Year festival, according to the city mayor—galvanising a nationwide search for recent Wuhan visitors.

Still, the majority of tracking carried out by local authorities in China requires a lot of manpower, though some are entering data online to help with registration, especially as residents return after the holiday.

In Beijing, some neighbourhoods are prompting residents to scan a QR code to fill out personal details, such as their phone number and hometown address.

One form also prompted participants to fill out details on their mode of transport, such as their licence plate or flight number, if they had travelled.

It also asked if they had "recently" visited central Hubei province—where Wuhan is located—or come into contact with anyone from the hard-hit region.

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