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Biometrics

Smile to enter: China embraces facial-recognition technology

Technology companies shrug off privacy concerns in push to widen commercial use

Many people in China are already accustomed to facial recognition technology © Bloomberg

Yuan Yang and Yingzhi Yang in Beijing

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China's technology companies are rushing to embrace the commercial use of facial-recognition technology, attempting to leapfrog western rivals that have taken a more cautious approach for fear of alarming privacy-conscious consumers.

While privacy concerns have slowed the rollout of the technology in some markets, many people in China already are accustomed to having their faces scanned for daily errands, ranging from making payments to accessing residential blocks, student dormitories and hotels.

The technology has even been used to stamp out a decades-old problem: the regular theft of mounds of toilet paper at the Temple of Heaven in Beijing. The public toilets at the well-visited park now feature a paper dispenser which recognises users' faces and does not allow for frequent repeat visits.

More prosaically, Ant Financial, the online payments affiliate of ecommerce group Alibaba, lets its 450m users log in to their online wallets by taking a selfie, while China Construction Bank allows customers to pay with their faces at some vending machines.

Car-hailing service Didi Chuxing is using the technology to verify drivers' identities, while Baidu, the search engine, has developed facial recognition gates for entry into its offices and ticketed attractions.

China's appetite for such technology has helped launch the world's first facial-recognition "unicorn": Beijing-based Face++ (pronounced "Face plus plus") raised $100m in its third large fundraising round in December, which the company says granted it unicorn status by virtue of a valuation of more than $1bn.

Megvii-owned Face++ has licensed its software to Didi and Ant Financial, and saw its first opportunity in the long queues at banks in China's densely populated cities.

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Face++

"You need to wait a long time to get any service. So we started our facial recognition service for the fintech sector," said Xie Yinan, spokesman for Face++. Now it plans to focus on the retail segment.

Although the fundamental artificial intelligence research behind facial recognition in China is at a similar level to that in Europe and the US, the country has taken the lead in applying it commercially.

"Google isn't pursuing facial recognition as much because it has higher and longer-term aspirations, and facial recognition is actually very achievable," said Leng Biao, a specialist in body recognition technology at Beijing University of Aeronautics and Astronautics. "But China's big companies are more focused on profit in the immediate future. They see [facial recognition] as the fastest, best way of using AI to make a difference."

A display demonstrating a facial recognition system for Ant Financial's Alipay platform © Bloomberg

Facial-recognition start-ups enjoy a positive feedback loop in China: the more widely used their technology, the better it gets. "As real-life business applications increase in China, more and more data gets fed back into our systems to improve our deep learning," said Mr Xie.

As with all AI applications, access to data is crucial. The combination of China's large population and lax privacy laws have made troves of information available at low cost.

“China doesn’t regulate the collection of people’s photos, so it’s easier to collect data here than in the US,” said Mr Leng. “In the early days, you could buy a photo of someone’s face for Rmb5 [less than a dollar]”.

“Until recently, China had a long history of seeing privacy as a negative concept,” said Xun Yang, technology lawyer at Simmons & Simmons in Shanghai. “The first law explicitly prohibiting the misuse of personal information came out in 2009.”

As a result, Chinese companies have been bolder than their western counterparts in rolling out facial recognition. Eric Schmidt, chairman of Google’s parent company Alphabet, called facial recognition “creepy” in 2011 and promised not to make a database of users’ photos. The commercial use of facial recognition in the US is so far limited mostly to automatically tagging people in photos on social media.

Nest, Alphabet’s smart home unit, has also incorporated facial recognition into its security camera but the function is excluded in Illinois, a state with tight laws governing the collection of biometric data.

Still, there is the potential for abuse. Unlike fingerprinting, facial recognition can be done passively, meaning users do not necessarily know they are being detected. The Chinese government uses it in surveillance cameras at train stations to alert police to passengers who have been banned from travelling.

China’s future market for biometric technology, including facial recognition, is boosted by synergies with the government ID system. The country has the world’s largest database of national identification photos — more than 1bn, compared to roughly 400m in the US.

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Professor Leng Biao, Beijing University of Aeronautics and Astronautics

Citizens are already accustomed to slotting their ID cards into chip readers to set up a mobile phone account, buy a train ticket or check into a hotel. China’s government was the first in the world to implement radio-frequency ID technology in ID cards, meaning a person with a card in their pocket need only walk past an RFID gate to have their identity detected.

This all adds up to an acceptance of ubiquitous ID technology that many outside China might find ominous. But users have the convenience of speed — and as Mr Schmidt put it at a forum near Shanghai in May: “China is a country in a hurry.”

Additional reporting by Emily Feng