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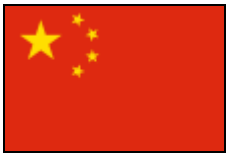

China : Artificial Intelligence at the heart of the Chinese government

Already the world's second-largest economy, China now wants to become the global No. 1 in the key sectors of the digital economy and technological innovation. It aims to be the world leader in artificial intelligence (AI)[1]. As the largest investor in AI in 2017[2], China also produces substantial scientific research on this topic. It is a country with immense potential: a population of 1.38 billion, including 800 million smartphone users, sizeable investments and very dynamic companies.

The development of AI: a priority for the Chinese government backed by significant advantages

Speaking at the National People's Conference in March 2018, Prime Minister Li Keqiang confirmed that the development of AI is a top priority for the Chinese government. In July 2017, the State Council unveiled a Next Generation Artificial Intelligence Development Plan (managed by the Ministry of Science and Technology (MST) and 15 other agencies) with the following goals:

- To create an industry worth 150 billion CNY by 2020

- To make substantial technological breakthroughs by 2025

- To become the world's primary AI innovation centre by 2030

Measures provided for in the plan include tax incentives and R&D cost deductions for small and medium-sized enterprises and start-ups. Industrial parks will be created across the country to nurture AI companies, and AI innovation application pilot zones to support experimentation[3].

In November 2017, the MST also announced the setting up of an AI Strategy Advisory Committee headed up by Pan Yunhe, an academic at the Chinese Academy of Engineering (CAE). The previous month, the National Development and Reform Commission (NDRC) had announced the creation of the China Artificial Intelligence Industry Development Alliance, comprised of leading members of this commission, MST representatives and subordinate institutes such as the China Academy of Information and Communications Technology (CAICT).

There are a myriad of initiatives and local governments have also entered the fray with eleven of them having published targets which would create an AI core industry of almost 400 billion CNY by 2020, that is to say more than the national goals[4] . The frontrunners are Beijing, Shanghai and Shenzhen. Beijing's government plans to invest two billion USD in an AI industrial park, which will host 400 businesses, and a national laboratory. Between now and 2020, investments of 150 billion CNY (19.15 billion EUR) are slated for universities, incubators and start-ups[5].

China has significant advantages to foster the rapid expansion of AI, the most important of which is a high level of digital maturity. Chinese consumers are used to using their smartphones to pay for online goods and services. They

[1] https://www.lemonde.fr/idees/article/2018/04/18/la-chine-a-une-chance-de-devenir-leadeur-de-l-intelligence-artificielle_5287037_3232.html
[2] https://usbeketrica.com/article/quand-la-chine-rejoint-la-course-a-l-intelligence-artificielle
[3] https://www.business.hsbc.com/belt-and-road/chinas-push-in-ai
[4] https://www.merics.org/en/blog/local-governments-power-advance-chinas-national-ai-agenda
[5] https://asialyst.com/fr/2017/11/30/intelligence-artificielle-chine-nouveau-grand-bond-en-avant/

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also use voice recognition software and virtual assistants. There is easy access to abundant data: Tencent's WeChat platform alone has over one billion monthly active users[6].

Furthermore, Chinese citizens appear relatively unconcerned about their privacy. Most consider that AI will have positive effects on their life. One out of three adults in China works for a company that has deployed artificial intelligence, with 31% of respondents to a survey stating that they are already using tools and applications enabled by AI[7].

Considerable momentum has been unleashed by government support and the funds invested[8]. Lastly, expertise in the AI field is ramping up and China has now overtaken the United States in the volume of research paper publications in scientific fields[9].

Practical applications in the health, public security and transport sectors

Mr Wan Gang, Minister of Science and Technology, has stated that China will strengthen the use of AI to solve security, health, environmental, public transport and justice issues[10]. China's three big data leaders, known as BAT, which are Baidu (China's most-consulted search engine), Alibaba (Chinese e-commerce market leader) and Tencent (Internet and mobile services) are set to make huge investments in public health and autonomous vehicles. Baidu has also launched a medical chatbot to help Chinese doctors diagnose patients. The conversational bot is named Melody and is tasked with collecting as much relevant information as possible before the medical appointment so that the doctor is able to make his/her diagnosis[11].

A number of applications have already emerged in the public security and criminal justice fields. For instance, predictive analytics are conducted to help track criminal activity and assess the likelihood of criminals to reoffend[12]. In the city of Shenzhen, in Guangdong province, the use of a tiny chip in public surveillance cameras has helped police find several lost children. In Jiangsu province's city of Nantong, an AI judge will be put into use later this year to organise and analyse legal documents and material as well as to perform paper work to lighten the workload for human judges. The system is expected to speed up the handling of legal cases by 30%[13].

In respect of environmental issues, Beijing has a tangible and practical application for assessing pollution levels. Sensors that can measure CO_2 content have been installed throughout the city and information from the city's weather service is run through algorithms developed by IBM's Almaden Laboratory in Silicon Valley. These help to predict whether or not the city is going to be impacted by high levels of pollution and the authorities can select which factories need to shut down[14].

The mobile payment apps WeChat Pay and Alipay, which are owned by Tencent and Alibaba, are becoming one-stop shops for a variety of government services. These include applications for visas, marriage and divorce appointments, paying fines or applying for a business licence. The city of Guangzhou is using the WeChat app to trial digital ID cards[15].

Sense Time has developed facial recognition software capable of identifying faces, gauging people's ages and even potential purchasing habits. These technologies may be applied in many areas, particularly traffic surveillance[16].

The lack of AI skillsets (shortfalls in advanced university AI programmes, qualified faculties and overall numbers of AI companies[17]) could put a drag on the development of AI. To remedy this, in February, the Ministry of Education launched an AI talent training programme for Chinese university teachers and students. The initiative is to be jointly sponsored by the MOE, the AI venture capital firm Sinovation, and Beijing University[18].

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[6] https://singularityhub.com/2018/08/29/china-ai-superpower/#sm.0008rg8t3wbsdz411382gadqgixl6
[7] http://www.chinadaily.com.cn/a/201806/22/WS5b2bd9b1a3103349141dda0d.html
[8] https://singularityhub.com/2018/08/29/china-ai-superpower/#sm.0008rg8t3wbsdz411382gadqgixl6
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[18] https://www.newamerica.org/cybersecurity-initiative/digichina/blog/riding-wave-full-steam-ahead/