

Artificial Intelligence and China's Authoritarian Governance

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Abstract

China has adopted a proactive and strategic approach to embrace the age of artificial intelligence (AI). This article argues that China's bold AI practices are part of its broad and incoherent adaptation strategy to governance by digital means. AI is part of a digital technology package that the Chinese authoritarian regime has actively employed not only to improve public service but also strengthen its authoritarian governance. China's digital progress benefits from its huge internet market, strong state power and weak civil awareness, making it more competitive than Western democratic societies where privacy concern restricts their AI development. However, China's ambitious AI plan contains considerable risks; its overall impact depends on how AI affects major sources of political legitimacy including economic growth, social stability and ideology. China's approach is gambling on its success in (a) delivering a booming AI economy, (b) ensuring a smooth social transformation towards the age of AI and (c) proving ideological superiority of its authoritarian and communist values.

Introduction

The rise of artificial intelligence (AI) has the potential to transform our governments and societies. An AI revolution may make future governments more digital, efficient and economic than ever before. Despite all the benefits that AI offers when applied in governance, Western democratic societies have considerable concerns regarding civil rights. The authoritarian regime in China, however, has chosen to fully embrace the age of AI. Nowadays, AI has become a buzzword not only of the capital market but also the Chinese Communist Party (CCP). To develop AI is now considered China's national strategy with a clear goal of making China a leading AI power.¹ China's open ambition has alarmed many of its competitors especially the US and Europe. Many view this as an open challenge to American AI supremacy.² In the context of global power transition, the so-called "AI race" between China and the US has opened a new front for their already intense geopolitical competition.

This US-China AI race represents not only a tech competition but also an ideological one. China's bold practices of applying AI technologies in state governance have further contested

¹ China (2017) 国务院关于印发新一代人工智能发展规划的通知 (*New Generation Artificial Intelligence Development Plan*), available at http://www.gov.cn/zhengce/content/2017-07/20/content_5211996.htm accessed on 28 February 2020: The State Council of China.

² Klein, A. O. (2020) *The U.S.-China Race and the Fate of Transatlantic Relations Part 1: Tech, Values, and Competition*, The Center for Strategic and International Studies (CSIS); Allison, G. (2019) 'Is China Beating America to AI Supremacy?', *The National Interest*; Castro, D., McLaughlin, M. and Chivot, E. (2019) *Who Is Winning the AI Race: China, the EU or the United States?* Center for Data Innovation; Allen, G. (2019) *Understanding China's AI Strategy*: Center for a New American Security.

the superiority of Western liberal democracy.³ This article examines this Chinese governance approach towards AI. It shows that China's bold AI practices in governance is an attempt not only to build a more efficient and capable government for better public services but also to strengthen state control for ensuring the continuation of the authoritarian order. This article argues that the application of AI in China's governance should be understood in the wider context of the CCP's broad and incoherent adaptation strategy to governance by digital means.

The CCP's successful practices of employing digital technologies to strengthen its governance is made possible due to China's unique socio-political environment. China's huge internet market has provided unlimited data to train and advance AI programs. As the world is shifting from "the age of expertise to the age of data,"⁴ data is a strategic resource that lays the foundation for digital technologies like AI. As Kaifu Lee, one of the most prominent figures in the Chinese internet sector, points out, data – rather than computing power and AI talents – is the most important factor to ensure successful AI algorithms, as "once computing power and engineering talent reach a certain threshold, the quantity of data becomes decisive in determining the overall power and accuracy of an algorithm."⁵ In 2019, China had over 854 million internet users – only 61.2% of its 1.3 billion population – with long-term growth potential;⁶ in comparison, the US had only 312 million users with less than 10% offline population to expand.⁷ In this regard, China as the "Saudi Arabia of data" has considerable comparative advantages in developing its AI industry.⁸

Moreover, weak civil awareness within Chinese society combined with the CCP's strong state power including a well-resourced domestic security sector has put China in a favourable position not only to exploit its data advantage but also enhance state control via digital means. For example, China has now been leading AI technology in areas such as facial recognition that Europe and the US have put on hold – or even banned – due to privacy concerns. In contrast to that in Western democratic societies, the key barrier to China's AI advancement lies in technological rather than legal constraints. More importantly, AI is more than another powerful tech tool to boost China's digital surveillance. AI's automating decision-making capability without human intervention is unleashing the potential of China's sophisticated digital surveillance network, as this article will explore. In this regard, this Chinese approach towards digital technology has been successful in empowering the state capacity so far.

Then, a consequent question is whether AI will eventually strengthen the authoritarian rule or not. While AI has been enhancing the capacity of China's domestic security sector, the AI-powered digital surveillance apparatus alone – no matter how powerful it is – cannot guarantee the continuation of the CCP; and surveillance programs are only part of AI's use in China. AI's overall impact is shaped by its interaction with the CCP's key sources of legitimacy

³ For example, Wright argues that AI-related technology is empowering China's digital authoritarianism and thus its global competition with liberal democracies. Wright, N. (2019) "Artificial Intelligence's Three Bundles of Challenges for the Global Order", in Wright, N. (ed.) *Artificial Intelligence, China, Russia, and the Global Order*, Air University Press

⁴ Lee, K. (2018) *AI Superpowers: China, Silicon Valley, and the New World Order*. Houghton Mifflin Harcourt.

⁵ Ibid.

⁶ Xiaoxia (2019) 'China has 854 mln internet users: report', *Xinhua*.

⁷ Clement, J. 2020. United States: number of internet users 2000-2019. available at <https://www.statista.com/statistics/276445/number-of-internet-users-in-the-united-states/> accessed on 31 May 2020.

⁸ Lee, K. (2018) *AI Superpowers: China, Silicon Valley, and the New World Order*. Houghton Mifflin Harcourt.

including economic growth, social stability and ideology. Faced with a slowing Chinese economy, the CCP has been counting on a booming high-tech industry to maintain economic growth and thus its legitimacy. Its bold AI plans were born in this economic context, and the Chinese government has spelled out specific economic targets for its AI industry. In this regard, the economic factor is the most important indicator to measure whether China's plans are successful or not. Should China's AI plans deliver a booming AI industry, it will no doubt help the CCP to deliver material goods and thus win popular support.

Yet, China's rush towards a booming AI economy takes on considerable risks. Indeed, the transition towards the age of AI will bring unprecedented social transformations – not only a restructuring of the workforce. China's proactive push towards an AI economy will only accelerate this process and thus increase the risks, while the cautious approach taken by others may mitigate the pain. Given China's proactive state approach and it being the world's largest population, China will be the most affected country during the transition towards the age of AI. Failing to address the relevant consequential social problems such as unemployment will threaten China's social order and thus the authoritarian governance. In this regard, while China's AI practices contribute to social stability by empowering the state security apparatus, they may undermine this stability at large through the social transformation that they will bring about.

Lastly, AI seems to be a perfect match for the CCP's ideology. AI has the potential to build super-intelligent computing models that can predict market forces without human intervention; this capability may lead to a fundamental reflection of our existing perspectives on the flaws of the planned economy and the superiority of the free market. With AI's blessing, China may evolve into an AI-driven central planning system that maximizes the efficiency in allocating market resources. If successful, this will essentially upgrade China's Soviet-style national central planning, and thus produce a powerful digital technocracy that liberal democracy can hardly compete with.⁹

In addition, with rapid technological development, AI's efficiency may reach a point where machines can produce abundant material goods and services and no human labour is needed. This will abolish the social contract of "work for a living" that has existed ever since the birth of human society. By then, human society may enter an idealist and utopian world, in which everyone has free and equal access to the distribution of goods, services and capital – a communist society that Karl Marx had envisioned since the 1840s. This will lead to a revisit of the communism vs capitalism debate and "the End of History". To the CCP's ideological legitimacy, it may be a game changer. Since the CCP's market reforms in the 1980s, it has been suffering from a self-made fundamental contradiction between its socialism commitments and generating economic success by quasi-capitalist policies.¹⁰ Should AI unlock the potential of central planning and produce sufficient material goods in the remote future, the age of AI will be in favour of the CCP's ideological values and thus its legitimacy. In these regards, the AI revolution is also an ideological revolution.

This article draws on both open source material and fieldwork in China, and proceeds in five subsequent sections. The first section reviews the literature on authoritarian governance in the digital age. The second section discusses how the CCP has been taking advantage of AI not

⁹ Araya, D. (2019) *Artificial Intelligence And The End Of Government*, available at <https://www.forbes.com/sites/danielaraya/2019/01/04/artificial-intelligence-and-the-end-of-government/#678b0efc719b> accessed on 28 Febrary 2020: Forbes.

¹⁰ Zeng, J. (2015) *The Chinese Communist Party's Capacity to Rule: Ideology, Legitimacy and Party Cohesion*. Palgrave Macmillan

only to improve public services but also enhance its state surveillance capacity. The third section analyses China's unique socio-political factors that allow this bold Chinese approach to AI. The fourth section discusses the overall impact of China's AI approach on the CCP's legitimacy by studying how it affects economic growth, social stability and ideology. The fifth section summarizes and concludes the key arguments of this article.

Authoritarian Governance in the Digital Age

The rise of the information and communication technology (ICT) was once considered as an existential challenge to authoritarian regimes. This view was particular popular after the Arab Spring in the early 2010s. At the time, from Egypt's "Facebook Revolution", Syria's "YouTube Uprising" to Iran's "Twitter Uprising", the Arab Spring was hailed as a "social media revolution",¹¹ leading to considerable hope for a fourth wave of democratization.¹² This developed a school of "liberating technology" that considers ICT as having liberating effects by overthrowing authoritarian rule through promoting the free flow of information and collective mobilization.¹³ The subsequent painful pull back of political transition in the Middle East, however, has led to much reflection of ICT. Despite its ability to shape politics, ICT is a tool whose use depends on the context in which it is deployed and thus its function as a driving force of democratization needs to be re-considered.¹⁴

ICT's successful adaptation in authoritarian contexts has led to an opposite argument: "repressive technology". Instead of a "liberating technology", many argue that it has strengthened authoritarian governance.¹⁵ While facilitating the free flow of information, it has given authoritarian regimes more advanced digital tools to *block* this flow and the capacity to shape public opinion by disseminating pro-state views and promoting misinformation campaigns.¹⁶ In other words, when facing the challenges brought by ICT, authoritarian regimes can stay resilient by doing the right thing. Some have even strengthened their authoritarian governance by mastering ICT to help their cause.

In this regard, China is the most frequently mentioned and successful example. The CCP has viewed AI along with other digital technologies as useful to strengthen its authoritarian rule – its so-called institutional security (制度安全). It has a proven track record of equipping itself with cutting-edge digital technologies to achieve the so-called "modernization of

¹¹Eltahawy, M. (2010) 'Facebook, YouTube, and Twitter Are the New Tools of Protest in the Arab World', *The Washington Post*.

¹²Abushouk, A. (2016) 'The Arab Spring: A Fourth Wave of Democratization?', *DOMES Digest of Middle East Studies*, 25(1), pp. 52-69, Howard, P. and Hussain, M. (2013) *Democracy's Fourth Wave?: Digital Media and the Arab Spring*. Oxford University Press.

¹³Diamond, L. (2010) 'Liberation technology', *Journal of Democracy*, 21(3), pp. 69-83, Lynch, M. (2011) 'After Egypt: The limits and promise of online challenges to the authoritarian Arab state', *Perspectives on Politics*, 9(2), pp. 301-310, Pierskalla, J. and Hollenbach, F. (2013) 'Technology and Collective Action: The Effect of Cell Phone Coverage on Political Violence in Africa', *American Political Science Review*, 107(2), pp. 207-224.

¹⁴Shearlaw, M. (2016) 'Egypt five years on: was it ever a 'social media revolution?'', *The Guardian*.

¹⁵Rod, E. and Weidmann, N. (2015) 'Empowering activists or autocrats? the Internet in authoritarian regimes', *Journal of Peace Research*, 52(3), pp. 338-351, Weidmann, N. (2015) 'Communication, technology, and political conflict: Introduction to the special issue', *Journal of Peace Research*, 52(3), pp. 263-268, Zeng, J. (2016) 'China's date with big data: will it strengthen or undermine the authoritarian rule?', *International Affairs*, 92(6), pp. 1443-1462.

¹⁶King, G., Pan, J. and Roberts, M. (2013) 'How Censorship in China Allows Government Criticism but Silences Collective Expression', *American Political Science Review*, 107(2), pp. 326-343, King, G., Pan, J. and Roberts, M. (2014) 'Reverse-engineering censorship in China: Randomized experimentation and participant observation', *Science*, 345(6199), pp. 1-10, Zeng, J. (2016) 'China's date with big data: will it strengthen or undermine the authoritarian rule?', *International Affairs*, 92(6), pp. 1443-1462, Morozov, E. (2011) *The Net Delusion: The Dark Side of Internet Freedom*. Philadelphia, PA: Public Affairs Philadelphia.

governance capacity".¹⁷ For example, China has heavily invested in the Golden Shield Project (one of its subsystems is famously known as the Great Firewall) to strengthen state control.¹⁸ All of these reflect the CCP's survival strategy to adapt itself in the digital age and to enhance its governance by electronic means. The CCP's successful digital practices show how resilient authoritarianism can not only cope with the profound challenges brought by the Internet but also lead the digital trend. This is further demonstrated by the CCP's approach towards AI, as the rest of this article will explore.

Notably, this article considers AI as an umbrella term referring to a wide range of digital technology with the ability "to perform tasks that would usually require human intelligence".¹⁹ There are three types of AI: narrow, general and super AI.²⁰ Narrow AI (also called weak AI) refers to digital technology with a narrow range of ability that is dedicated to specific tasks such as Siri – the virtual assistant – on iPhones, drone robots and self-driving cars. It is the most basic generation of AI and performs below human level. The current progress of AI development belongs to this narrow AI generation. General AI (also called strong AI) is the more advanced generation and has yet to be achieved. General AI has cognitive abilities that can perform identically to human level. Super AI represents the most advanced and hypothetical generation of digital technology that has a strong self-awareness and can surpass human intelligence in all areas. This article is mostly about narrow AI but also briefly touches upon general and super AI.

AI: Towards Good Governance?

In order to put its strategic approach to advance its AI industry into practice, the Chinese central government has issued a series of strategy papers to promote AI growth including the "Internet + AI three years implementation plan" jointly issued by the National Development and Reform Commission, the Ministry of Science and Technology, the Ministry of Industry and Information Technology, and the Cyberspace Administration of China in 2016²¹ and the "New Generation AI Development Plan" by the Chinese State Council in July 2017.²² The latter announced China's ambition to become a leading AI power by 2030 with a three-step plan. The subsequent 19th CCP congress report echoed the plan to emphasize the critical role of AI to make China a major manufacturing power.²³ In the relevant official policy documents, "to develop AI" has become a broad policy slogan, leaving considerable room for interpretation.

AI's application in state governance is one of the most followed aspects among international analyses of China's AI development. The Chinese government is highly interested in exploring AI's potential in governance especially its boost to efficiency. Nowadays, Chinese

¹⁷ Zeng, J. (2016) 'China's date with big data: will it strengthen or undermine the authoritarian rule?', *International Affairs*, 92(6), pp. 1443-1462.

¹⁸ Zeng, J. (2016) 'China's date with big data: will it strengthen or undermine the authoritarian rule?', *International Affairs*, 92(6), pp. 1443-1462.

¹⁹ Oxford (2005) 'The Oxford Dictionary of Phrase and Fable', *artificial intelligence*. available at <https://www.oxfordreference.com/view/10.1093/oi/authority.20110803095426960> accessed on 18 June 2020: Oxford University Press.

²⁰ Kaplan, A. and Haenlein, M. (2019) 'Siri, Siri, in my hand: Who's the fairest in the land? On the interpretations, illustrations, and implications of artificial intelligence', *Business Horizons*, 62, pp. 15-25.

²¹ China (2016) "互联网+" 人工智能三年行动实施方案 ('Internet + AI three years implementation plan), available at http://www.gov.cn/xinwen/2016-05/23/content_5075944.htm accessed on 19 June 2020.

²² China (2017) 国务院关于印发新一代人工智能发展规划的通知 (New Generation Artificial Intelligence Development Plan), available at http://www.gov.cn/zhengce/content/2017-07/20/content_5211996.htm accessed on 28 Febrary 2020: The State Council of China.

²³ Ibid.

local governments are competing to be the pioneer of the so-called “intelligent governments”. Guangzhou Municipal Government, for example, claimed that it first introduced facial recognition and “AI + Robot” approval technology into state regulation of the commercial field.²⁴ In 2017, Guangzhou Municipal Bureau of Industry and Commerce introduced the “AI + Robot” full electronic commercial registration system. This new system manages to shorten the application process of commercial registration business licences from 3 days to only 10 minutes by employing technologies including facial recognition electronic signature and AI identity verification.²⁵ The relevant model has been introduced to the entire city of Guangzhou after pilot experiments.²⁶

Since 2018, Zhejiang Provincial Government has been working with Alibaba – a leading Chinese tech company – to use AI to improve its government consultation and complaint reporting platform. It has made use of AI and machine learning to process provincial and city data and form a comprehensive provincial government affairs knowledge base and a personalized local government affairs knowledge base.²⁷ Due to increasingly personalized demands, Zhejiang Provincial Government has worked with Alibaba to create the first government-affairs-focused AI trainer team in China to facilitate the process.²⁸

The Chinese government has also applied AI in public safety. For example, the Chinese Ministry of Public Security has adopted facial recognition and simulation technology in the fight against child trafficking. The relevant technology solves two key difficulties faced by traditional methods.²⁹ The first difficulty is that a child’s appearance will change significantly after many years of disappearance. Using a facial simulation growth algorithm, the relevant technology can help to generate a photo of what a child looks like today based on his or her childhood photo.³⁰ The second difficulty is identifying lost children from the missing persons database. After comparing and analysing thousands of photos, it is very easy for human analysts to get confused. AI facial recognition technology, however, significantly enhances not only accuracy but also efficiency; it can reach 99.9% accuracy with 100,000 facial comparisons per second.³¹ The relevant AI technology has successfully helped thousands of Chinese families to find their lost children.³²

In addition, AI is used to predict crime. Chinese police are working with AI companies to develop a system to assess individuals’ chances of committing a crime.³³ Facial recognition technology and gait analysis is used to monitor individual movements and behaviours such as visits to high-risk places including hardware stores where kitchen knives are sold.³⁴ If AI software identifies highly suspicious individuals or groups, it will automatically send warnings

²⁴ Guangzhou (2017) '广州进入“人工智能+机器人”全程电子化商事登记新时代 (Guangzhou has entered the new age of "AI+ robot" full electronic business registration)', *Guangzhou Daily*.

²⁵ Lv, G. and Hu, L. (2017) '3 天变 10 分钟 广州商事登记实现全程“无人化” (From 3 days to 10 minutes, Guangzhou Commercial Registration has achieved "unmanned" operation)', *Xinhua*.

²⁶ Guangzhou (2017) '广州进入“人工智能+机器人”全程电子化商事登记新时代 (Guangzhou has entered the new age of "AI+ robot" full electronic business registration)', *Guangzhou Daily*.

²⁷ Zhao, X. (2019) '浙江成立全国首支政务人工智能训练师队伍 (Zhejiang created the first government affairs focused AI trainer team)', *China News (Zhejiang)*.

²⁸ Ibid.

²⁹ Ye, Q. (2019) '人脸识别让寻亲不再是大海捞针 (Face recognition makes searching for relatives no longer a needle in a haystack)', *Technology Daily*.

³⁰ Ibid.

³¹ Ibid.

³² Zhang, Y. (2019) '公安部：进一步推广人工智能脸部识别技术进行打拐 (Ministry of Public Security: to further promote AI facial recognition technology for abduction)', *China Daily*.

³³ Yang, Y., Yang, Y. and Ju, F. (2017) 'China seeks glimpse of citizens' future with crime-predicting AI'.

³⁴ Ibid.

to the police.³⁵ As Chinese Vice-Minister of Science and Technology Li Meng comments, “if we use our smart systems and smart facilities well, we can know beforehand... who might be a terrorist, who might do something bad.”³⁶ In this regard, this AI application is making *Minority Report*-style policing become a reality.

Moreover, AI’s potential in data integration is critical to China’s governance given the huge size of its bureaucracy. Far contrary to public and media understanding, fragmentation has been a key pattern of China’s authoritarian regime for decades. Known as a “fragmented authoritarianism model” within the scholarship,³⁷ this system combines (a) a vertically decentralized power and responsibility delegated to different levels of government from the central government, provinces, cities, towns to villages with (b) power distributed horizontally among central agencies in Beijing with different but sometimes competing responsibilities.³⁸ This disjointed Chinese bureaucracy has allowed space for a high level of factionalism, localism and departmentalism. The underlying bureaucratic politics has often produced unwanted policy outcomes for the central government.³⁹

As such, lack of coordination and communication within different governmental organizations is a typical problem within China’s bureaucracy. In this context, massive data is held by different governmental organizations like islands of disparate data and information silos. China’s proactive search for AI support carries some hope to improve the fragmented system. Take AI’s use in integrating state information and upgrading China’s surveillance programs as an example. Since the 1990s, Chinese governmental organizations have heavily invested in surveillance cameras. This has developed the largest video surveillance network in the world. Among the world’s 10 most surveilled cities, 8 are in China.⁴⁰ An estimated 1 public camera for every 4.1 Chinese people in 2018⁴¹ may rise to 1 for every 2 by 2022.⁴² Since 2015, all public streets in Beijing have been monitored via at least 30 million cameras and the 24/7 participation of 4,000 police officers as part of Beijing’s Skynet project.⁴³

Nonetheless, fragmentation within the bureaucracy has undermined the effectiveness of China’s surveillance programs. Instead of an integrated information network, the relevant monitoring data is fragmented and held in isolation within different departments who are less committed to the idea of sharing and coordination than many expected. Most surveillance cameras, for example, are put there by different governmental departments, public institutions

³⁵ Ibid.

³⁶ Ibid.

³⁷ Lieberthal, K. (1992) 'Introduction: the 'Fragmented Authoritarianism' Model and its Limitations', in Lieberthal, K. and Lampton, D. (eds.) *Bureaucracy, Politics and Decision Making in Post-Mao China*. Berkeley; London: University of California Press, pp. 1-31. Brødsgaard, K. (2018) *Chinese Politics as Fragmented Authoritarianism*. Routledge, Jones, L. and Zeng, J. (2019) 'Understanding China’s ‘Belt and Road Initiative’: beyond ‘grand strategy’ to a state transformation analysis', *Third World Quarterly*, 40(8), pp. 1415-1439.

³⁸ It is called 条条 (vertical line) 塊块 (horizontal pieces) in Chinese

³⁹ Examples of Belt and Road Initiative, please see Jones, L. and Zeng, J. (2019) 'Understanding China’s ‘Belt and Road Initiative’: beyond ‘grand strategy’ to a state transformation analysis', *Third World Quarterly*, 40(8), pp. 1415-1439. Examples of nuclear governance, please see Hameiri, S. and Zeng, J. (2019) 'State Transformation and China’s Engagement in Global Governance: The Case of Nuclear Technologies', *The Pacific Review*, published online first.

⁴⁰ Bischoff, P. (2019) 'Surveillance camera statistics: which cities have the most CCTV cameras?', *Comparitech*.

⁴¹ Ricker, T. (2019) 'The US, like China, has about one surveillance camera for every four people, says report', *The Verge*.

⁴² Bischoff, P. (2019) 'Surveillance camera statistics: which cities have the most CCTV cameras?', *Comparitech*.

⁴³ Zhang, J. (2015) '本市城区郊区城关探头全覆盖 (Probes fully cover our city)', *北京晨报 (Beijing morning)*. 10/03/content_368559.htm

and social organizations.⁴⁴ The same street may face dozens of cameras owned by different organizations, leading to a high level of meaningless duplication. In addition, those cameras often have different video standards and information systems, making the relevant monitoring records difficult to be integrated and shared.⁴⁵ Due to these duplication and information isolation problems, China's tremendous investment in the video surveillance network has not achieved what it could have done. In other words, the power of the world's largest surveillance network has been ironically restrained by fragmented bureaucratic politics.

In this context, AI is employed to mitigate these problems. In China's smart cities projects, for example, AI technologies have been used to integrate those security cameras to break information isolation within governmental organizations.⁴⁶ Local cities have piloted experiments to integrate thousands of cameras into city-wide unified video surveillance networks that are capable of having full geographical coverage and 24/7 operation.⁴⁷ Here, AI is about not only delivering a technological breakthrough but also raising internal awareness of bureaucratic coordination for maximizing efficiency. In this regard, AI may unleash the hidden potential of China's powerful surveillance network.

China's Unique Socio-Political Context for AI's Rise

China's application of AI in governance has attracted considerable public and media attention on the global stage. Many tech blogs and analyses have been closely following the development of China's high-tech surveillance state for years. The trend is not unique to China as all capable national states are applying AI technologies in governance, and AI-powered state surveillance has made for popular headlines for years. However, the Chinese practices are particularly interesting given China's massive AI investment combined with its authoritarian ends. Its primary need for maintaining (if not strengthening) the authoritarian rule has provided a unique Chinese mode of AI governance.

To start with, without checks and balances by a strong legislative power, China's massive domestic security budget allows its state apparatus to invest in expensive cutting-edge technologies and thus develop its security force. In order to maintain the authoritarian rule, the state has strong incentives to strengthen its control over society, and digital technology is one of its tools. The pages of *International Affairs*, for example, have explored how big-data-related technology is adopted to strengthen the state's so-called "social management capacity".⁴⁸ This involves a grid-style social management model that represents a surveillance system for maintaining public security and social order. The development of AI in social governance is designed to support this broader social management goal.⁴⁹ As the Chinese State Council's "New Generation AI Development Plan" clearly points out,

"AI technologies can accurately sense, forecast, and provide early warning of major situations for infrastructure facilities and social security operations; grasp group cognition and psychological changes in a timely manner; and take the initiative in decision-making and reactions – which will significantly elevate the capability and level

⁴⁴ Han, X. (2019) '让信息流动起来：人工智能与政府治理变革 (Making Information Flow: Artificial Intelligence and Governance Reform)', *社会主义研究 (Socialism Studies)*, 4(246), pp. 79-86.

⁴⁵ Ibid.

⁴⁶ Ibid.

⁴⁷ Ibid.

⁴⁸ Zeng, J. (2016) 'China's date with big data: will it strengthen or undermine the authoritarian rule?', *International Affairs*, 92(6), pp. 1443-1462.

⁴⁹ Hoffman, S. (2019) "Managing the State Social Credit, Surveillance, and the Chinese Communist Party's Plan for China" in Wright, N. (ed.) *Artificial Intelligence, China, Russia, and the Global Order*, Air University Press

of social governance, playing an irreplaceable role in effectively maintaining social stability.”⁵⁰

More importantly, there is a relatively low level of social resistance towards mass surveillance in China.⁵¹ It is important to put this into perspective. Even in Western democratic states where there is supposedly a strong legal framework to balance state power, surveillance programs such as PRISM can still be implemented by the US National Security Agency to monitor its citizens.⁵² In comparison, Chinese society has a much weaker awareness of civil rights, and the legal resistance towards those surveillance programs is virtually none. In 2015, a national security law was passed to allow the Chinese security bureau to have full access to the relevant data.⁵³

The overwhelming state role grants it power to control not only legislation but also public opinion. There is an obvious contrast in media narratives about AI between China and Western democratic societies. The public and media discussion over the state use of AI in the West has often been vigilant to its negative impacts, especially its potential invasion of privacy and harm to civil rights. Despite their existence, those topics, however, have never dominated China’s public discussion – not only because China’s censorship grants the state capacity to shape national agendas and debates. Regarding AI, the Chinese state has clearly indicated a strong will to influence public opinion. For example, the Chinese State Council’s “New Generation AI Development Plan” notes “to guide public opinion” about AI as part of China’s AI strategy.⁵⁴ According to the plan,

China should “fully use all kinds of traditional media and new media to quickly propagate new progress and new achievements in AI, to let the healthy development of AI become a consensus in all of society, and muster the vigor of all of society to participate in and support the development of AI. Conduct timely public opinion guidance, and respond even better to social, theoretical, and legal challenges that may be brought about by the development of AI.”⁵⁵

Chinese state media has often highlighted positive AI stories such as how advanced AI technology has helped thousands of families to find lost children or the police to catch criminals with unprecedented speed. All of these have helped the state to shape public opinion of AI in its preferred way.

In addition, China’s state-society relations produces a unique commercial ecosystem. Although many of China’s internet giants have foreign capital and are not owned by the state, it has not prevented the state from receiving their full cooperation – after all, the CCP has party

⁵⁰ Webster, G., Creemers, R., Triolo, P. and Kania, E. (2017) 'Full Translation: China's 'New Generation Artificial Intelligence Development Plan' (2017)', *New America*.

⁵¹ Zeng, J. (2016) 'China's date with big data: will it strengthen or undermine the authoritarian rule?', *International Affairs*, 92(6), pp. 1443-1462.

⁵² Ball, J. (2013) 'NSA's Prism surveillance program: how it works and what it can do', *The Guardian*.

⁵³ China (2015) '授权发布：中华人民共和国国家安全法 (National Security Law of People's Republic of China)'. available at http://www.xinhuanet.com/politics/2015-07/01/c_1115787801.htm accessed on 5 July 2020

⁵⁴ China (2017) *国务院关于印发新一代人工智能发展规划的通知 (New Generation Artificial Intelligence Development Plan)*, available at http://www.gov.cn/zhengce/content/2017-07/20/content_5211996.htm accessed on 28 Febrary 2020: The State Council of China.

⁵⁵ Webster, G., Creemers, R., Triolo, P. and Kania, E. (2017) 'Full Translation: China's 'New Generation Artificial Intelligence Development Plan' (2017)', *New America*.

committees in most of those companies as an institutionalized way to influence their daily operation.⁵⁶ Chinese internet giants competed to join the so-called “national AI team of China” certified by the Chinese Ministry of Science and Technology in order to lead the “National AI Open Innovation Platform”. The first batch included 5 team members, and each was assigned by the Chinese government a distinct strategic area to pioneer – autopilot assigned to Baidu, smart cities to Alibaba, media imaging to Tencent and intelligent voice to iFlytek.⁵⁷ The team was further expanded in 2018 and 2019 to include 10 more Chinese internet giants including Huawei, Jingdong and Xiaomi along with start-up companies.⁵⁸

This kind of business-state relations allows China’s security forces to have more access to data owned by businesses than that in Western democracies. At the very least, Apple’s open rejection to assist the FBI during the FBI–Apple encryption dispute in 2016⁵⁹ is unlikely to happen in China; neither public opinion nor law would stand with the company, and the price of saying no to the government in China is unbearable. Unlike their American counterparts who have been facing strong social pressure on cooperation with state security sector,⁶⁰ many Chinese AI start-ups are actively working with the state to develop surveillance programs. In 2019, the Trump administration sanctioned a few Chinese AI start-up companies – many were part of the aforementioned “national AI team of China” – over their technical assistance to the Chinese government to strengthen its high-technology surveillance in Xinjiang.⁶¹

Needless to say, without strong checks and balances by society, the state’s digital surveillance programs have been developing at a rapid pace in China. In the meanwhile, in the West, society has always played a role in balancing state adoption of those digital technologies, exerting pressure to regulate and thus restrict their development. AI is no exception. Take facial recognition as an example. Its use by police and city agencies has been officially banned in a growing list of American cities including San Francisco, Boston and Oakland.⁶² The EU also seriously considered a blanket ban of its use in early 2020.⁶³ Even Google CEO Sundar Pichai is in favour of a temporary ban.⁶⁴ Needless to say, a blanket ban of AI facial recognition technology in Europe and the US will give China considerable comparative advantage in the field. Even if the relevant AI technology eventually gains a green light to go ahead, the cautious approach taken by the US and Europe has given China years of time to advance its AI programs and thus get ahead. Not surprisingly, China has already been leading facial recognition technology. In these regards, there is a clear difference of ideological values between China and Western democratic states.

⁵⁶ Feng, E. (2017) Chinese tech groups display closer ties with Communist party, *Financial Times*, available at <https://www.ft.com/content/6bc839c0-ace6-11e7-aab9-abaa44b1e130> accessed on 19 September 2020

⁵⁷ Yang, Q. (2019) '新一批人工智能“国家队”亮相：京东、华为、小米等10家企业入选 (A new batch of AI "national teams" debut: JD.com, Huawei, Xiaomi and other 10 companies selected)', *21jingji*.

⁵⁸ Ibid.

⁵⁹ Kharpal, A. (2016) 'Apple vs FBI: All you need to know', *CNBC*.

⁶⁰ For example, under the pressure of “Black Lives Matter” campaign in 2020, Microsoft joined Amazon and IBM to limit the use of their facial recognition technology by US police. BBC (2020) 'George Floyd: Microsoft bars facial recognition sales to police', *BBC News*.

⁶¹ Swanson, A. and Mozur, P. (2019) 'U.S. Blacklists 28 Chinese Entities Over Abuses in Xinjiang', *New York Times*.

⁶² Other cities include San Diego, , Berkeley, Somerville, Somerville, Cambridge and Brookline.

⁶³ Espinoza, J. and Murgia, M. (2020) 'EU backs away from call for blanket ban on facial recognition tech', *Financial Times*.

⁶⁴ Vincent, J. (2020) 'Google favors temporary facial recognition ban as Microsoft pushes back', *The Verge*.

In 2020, this ideological gap seems to have become narrower. At the time of writing, coronavirus is giving its blessing to mass surveillance. From South Korea, Italy to Israel, national governments have strengthened their mass surveillance to track citizen movements in order to combat coronavirus.⁶⁵ The pandemic has produced a global shift to protect public interests by preventing mass infections at the expense of privacy, and this trend may be irreversible as demonstrated by historical practices. In the case of September 11, 2001, for example, surveillance programs designed to combat terrorism have stayed permanent, and the process of strengthening such surveillance is irreversible.⁶⁶

Not surprisingly, China is leading the trend. In China, a mobile application called “health code” has been introduced by internet giants Tencent and Alibaba to track users’ movements in order to monitor individuals who have already or are likely to become infected with coronavirus.⁶⁷ This application shares data with Chinese security and introduces a three-colour dynamic management system “green, yellow and red” based on individuals’ movements and whether they have contacted anyone who is exposed to coronavirus.⁶⁸ A yellow and red code means that the person has a high or relatively high risk of becoming infected, while a green code means low or no risk.⁶⁹ In the entrances of residential areas, offices, public places and transportations, there had been mandatory checks for this “health code”, and only green codes can gain access. With nearly a billion Chinese people using this application, problems like privacy are clearly a concern.

To be clear, in China, there is a discussion over data abuse and privacy brought by the rise of AI. Yet, most of the discussion lies in how market and private rather than state actors misuse data. In fact, neither AI nor other digital technologies are the root cause of China’s data leak and abuse problem. Even when it comes to off line information, data has often been misused due to lack of state regulation and professional conduct. For example, many Chinese phone users regularly get harassing phone calls selling investment opportunities; cases reported that property owners’ contact information (stored offline) is a key resource sold in China’s profitable information trafficking industry.⁷⁰

With AI’s rise to accelerate the collection and centralization of private information, this kind of problem has become worse. In 2019, for example, a large-scale data breach occurred in a Chinese AI company focusing on security, leading to the leak of 2.56 million user records including highly sensitive private information such as ID number, address, date of birth, photo, work unit and location information that can identify the user.⁷¹ The security incident is a big embarrassment to this company whose principal business is security protection. In this context, the government is facing pressure to regulate information collection in China.

AI: to Strengthen the Authoritarian Rule?

⁶⁵ Singer, N. and Choe, S.-H. (2020) 'As Coronavirus Surveillance Escalates, Personal Privacy Plummets', *New York Times*.

⁶⁶ Kurra, B. (2011) 'How 9/11 Completely Changed Surveillance in U.S.', *WIRED*.

⁶⁷ Mozur, P., Zhong, R. and Krolik, A. (2020) 'In Coronavirus Fight, China Gives Citizens a Color Code, With Red Flags', *The New York Times*.

⁶⁸ Ibid.

⁶⁹ Ibid.

⁷⁰ Ma, J., Luo, Y., You, J. and Wei, W. (2018) '调查 | 谁在给你拨打骚扰电话? (Survey: who is giving you harassing calls?)', *The Beijing News*.

⁷¹ CCTV.com (2019) '人工智能企业被曝发生大规模数据泄露事件 超过 250 万人的数据可被获取 (AI companies are exposed to large-scale data breaches, data of more than 2.5 million people are obtained)', *CCTV.com*.

Clearly, AI has been employed to achieve authoritarian ends. But, will it eventually strengthen the authoritarian rule in China? If the only focus is on how AI has been upgrading China's surveillance capacity and thus its security apparatus, the answer seems to be yes. However, AI is more than surveillance programs, and its overall impact should be examined more comprehensively. As previously mentioned, this article argues that how China's AI plans interact with the CCP's legitimacy foundation is the key. Given that economic growth, social stability and ideology represent three key sources of legitimacy for the CCP,⁷² AI's impact on these three aspects is critical to understand its overall impact on the authoritarian rule in China.

Despite the top-level strategic thinking of a global AI race and AI's use in governance programs, economic factors remain the fundamental driving force of China's bold AI plans. Economic performance has been the primary source of legitimacy in China since the early 1980s, as will be discussed in detail later. By delivering material ends to benefit most Chinese people, the CCP manages to win popular support and stay in power. The slowdown of China's economy, however, has led to serious concerns within China's leadership, and many are counting on the growth of the high-tech sector to save economic growth. As such, China has made the aforementioned bold national strategies to develop high tech including big data, 5G and AI. In this regard, to develop a booming AI economy is the primary goal of China's AI plans. As the Chinese State Council's "New Generation AI Development Plan" points out,

"AI has become a new engine of economic development. AI has become the core driving force for a new round of industrial transformation, [which] will ... create a new powerful engine, reconstructing production, distribution, exchange, consumption, etc., links in economic activities...China's economic development enters a new normal, deepening the supply side of structural reform task is very arduous, [and China] must accelerate the rapid application of AI, cultivating and expanding AI industries to inject new kinetic energy into China's economic development."⁷³

This plan also spells out specific economic goals in a targeted timeframe of reaching an AI industry worth more than 150 billion-yuan by 2020, 400-billion-yuan by 2025 and 1000 billion-yuan industry by 2030.⁷⁴

It is very important to note that precisely because a booming AI industry is the primary task, China's AI plans are carried out by the key driving forces of its economy: market and local and subnational actors instead of central agencies in Beijing. China's AI hype has revealed a great interest in the market on China's AI plans, and its local provinces have jumped onto the bandwagon to boost their regional AI economy. Those actors are primarily driven by market and regional interests, meaning that the larger geopolitical picture of the global AI race and US-China competition is often irrelevant in their local and practical contexts. In addition, the aforementioned fragmentation of Chinese bureaucracy has further complicated the domestic coordination of China's AI practices. This simply means that the Chinese approach towards AI should not be understood as a coherent, national-concerted effort, and that Beijing's capacity to coordinate China's AI development should not be exaggerated. Despite so, as long

⁷² Zeng, J. (2015) *The Chinese Communist Party's Capacity to Rule: Ideology, Legitimacy and Party Cohesion*. Palgrave Macmillan

⁷³ Webster, G., Creemers, R., Triolo, P. and Kania, E. (2017) 'Full Translation: China's 'New Generation Artificial Intelligence Development Plan' (2017)', *New America*.

⁷⁴ The 2020 target looks unlikely to be met not only because of the coronavirus outbreak.

as a booming AI industry can be developed to support China's economic growth and thus improve people's living standards, China's AI approach will be a big boost to the CCP's legitimacy.

In comparison, the implication of China's AI approach for social stability is more complicated. Social stability is another key source of legitimacy for the CCP. In Deng Xiaoping's words, "in China, the overriding need is for stability".⁷⁵ As previously discussed, digital technologies like AI have empowered the domestic security sector, especially its surveillance capability. Despite being costly, this has strengthened the state's ability to control society. However, repression alone is not sufficient to maintain social stability – not if the state cannot cope with the forthcoming dramatic social changes brought by AI.

For example, the transition towards the age of AI will bring a fundamental restructure to the workforce. According to the McKinsey Global Institute, AI will replace up to 30% of the current global workforce by 2030.⁷⁶ Kaifu Lee argues that "tremendous social disorder and political collapse stemming from widespread unemployment and gaping inequality" is the main threat of AI; this will bring a psychological crisis over the purpose of life and challenge human society's established values over "work for a living" in a very short period of time.⁷⁷ The McKinsey Global Institute's report shows, by 2030, 400-800 million people in the world will need to find jobs in new occupations, and most of those people – up to 100 million or 12% of the 2030 workforce – will be Chinese, making China the most affected country.⁷⁸ The Chinese government's bold AI push will only accelerate this social transformation with severe consequences like massive unemployment. Apparently, this will introduce a critical social challenge for the CCP.

Although China has some experience of a shifting workforce from agriculture during its market reforms in the past few decades, some Chinese scholars argue that the unemployment problem is quite different this time. According to Gao Qiqi, the Director of the AI and Big Data Index Institute at East China University of Political Science and Law, this round of workforce transition will affect not only peasants and workers but also highly educated intellectuals and white-collar workers, which are much more difficult to "soothe and accept the status quo".⁷⁹ According to Gao, "working class has a long history of exercising their pressure in regard to unemployment and thus the society is experienced to face this kind of pressure. However, when facing the unemployment of intellectuals and the tertiary industry, human society has very little experience. This will be a huge challenge for humanity in the future. Therefore, human society is facing a profound revolution with new historical characteristics."⁸⁰ In short, AI brings not only advanced digital tools to empower the security sector but also dramatic social changes

⁷⁵ Deng, X. (1994) *Selected Works of Deng Xiaoping Vol.3* (邓小平文选第三卷). Beijing: Foreign Languages Press.

⁷⁶ McKinsey (2017) *Jobs lost, jobs gained: workforce transitions in a time of automation*: McKinsey Global Institute.

⁷⁷ Lee, K. (2018) *AI Superpowers: China, Silicon Valley, and the New World Order*. Houghton Mifflin Harcourt.

⁷⁸ McKinsey (2017) *Jobs lost, jobs gained: workforce transitions in a time of automation*: McKinsey Global Institute.

⁷⁹ Gao, Q. (2017) '中国在人工智能时代的特殊使命 (China's special mission in the age of AI)', *探索与争鸣 (Exploration and Contention)*, 10, pp. 49-55.

⁸⁰ Ibid.

that the CCP has to cope with. Whether the CCP can ensure a smooth transition towards the age of AI is the key to observing AI's impact on China's social stability and thus legitimacy.

Ideology is the third and often neglected pillar of the CCP's legitimacy, and AI has the potential to be a game changer in this aspect. With the marginalization of communism, ideology is often considered obsolete in China.⁸¹ This is hardly true.⁸² The very purpose of a communist party is supposed to be the vehicle to deliver a communist society. If not, why is it there at all? Despite the CCP's remarkable economic success, its market reform programmes have been questioned by China's leftists who believe that it is wrong to move Chinese society towards a capitalist road. The CCP has been facing a fundamental contradiction between using quasi-capitalist economic policies to generate economic success and its commitment towards communism and socialism.⁸³

This contradiction can be tracked as far back as the early 1980s if not the late 1970s. At the time, Mao Zedong's decades-long political campaigns left a failed communism experiment. The then Soviet-style planned economy – in which the central government had a high level of control over economic activities including production, distribution and allocation – was not only stagnant but also broken. While this system ensured a high level of economic equality, it suffered from two key problems: (a) low productivity as people lacked motivation to work given that labour gain was not correlated with their input; and (b) low efficiency as central planners were not able to process and react to information as quickly and efficiently as the market could. In the wider context, many communist regimes including the Soviet Union faced the same problem and had to allow a bigger market role in their economies in order to address the flaw.

So did China. After Mao passed away, the CCP lost the last source of popular support – Mao's charismatic legitimacy. In order to save the party, it decided to get rid of the inefficient planned economy and move towards a market one – named “socialist market economy” to justify the quasi-capitalist reforms under a communist rule.⁸⁴ Despite the bumpy transition, this move has eventually created an economic miracle and saved the party. This market economy has not only significantly enhanced efficiency but also unleashed the average Chinese people's incentives for production, which has provided a fundamental basis for China's economic miracle. This Chinese transition happened in a wider international context of the universal decline of the Soviet-style planned economy and a wave of communist regime collapses. By then, the wider ideological struggle between communism and capitalism that underlay the Cold War seemed no longer to exist, and victory belonged to capitalism and the free market.⁸⁵

Nonetheless, China's remarkable economic growth has created many side effects and exposed the flaw of capitalism. Rapid economic growth has led to fundamental changes in

⁸¹ As Holbig (2013:61) rightly points out, “in the political science literature on contemporary China, ideology is mostly regarded as a dogmatic straitjacket to market reforms that has been worn out over the years of economic success, an obsolete legacy of the past waiting to be cast off in the course of the country's transition toward capitalism.”

⁸² Zeng, J. (2015) *The Chinese Communist Party's Capacity to Rule: Ideology, Legitimacy and Party Cohesion*. Palgrave Macmillan

⁸³ Ibid.

⁸⁴ Ibid.

⁸⁵ Although the rise of BRICS indicates that there is still a debate over to what extent the state should play a role in socioeconomic affairs. See Beeson, M. and Zeng, J. (2018) 'The BRICS and global governance: China's contradictory role', *The Third World Quarterly*, 39(10), pp. 1962-1978.

China's economic equality. The previous fairly even wealth distribution structure under Mao has been replaced by a huge gap between the rich and the poor, leading to serious internal concerns about the CCP's legitimacy.⁸⁶ It is ironic to see the success of a communist party to lead quasi-capitalist reforms and to create a high level of economic inequality. Xi Jinping's ideological push on Marxism-Leninism from 2012 onward also occurred in this context in order to save the CCP's ideological legitimacy. In short, without these quasi-capitalist market programmes, the regime cannot deliver material ends to stay in power; however, the closer China moves towards capitalism, the bigger legitimacy crisis the CCP faces. This fundamental contradiction has sat at the core of Chinese politics since the 1980s.

In the age of AI, to fulfil the CCP's socialism commitments *and* deliver economic growth no longer seems to be impossible. AI may provide a solution to the dilemma by fixing the fundamental flaw of the planned economy: (a) low productivity and (b) low efficiency. With the development of AI, future smart machines may achieve a high level of productivity that not only outperforms human labour, but also produces tremendous wealth for human society. In this context, people will no longer need to work for a living. If machines can create sufficient material ends to satisfy the needs of human society, people's lack of work motivation will not be a problem. As Richard Liu, a leading Chinese internet entrepreneur and Jingdong's founder, points out,

“We in China propose communism. In the past, many people thought communism was completely unattainable. Following (developments in) our technological situation over the past two to three years, however, I suddenly realize that communism can be truly achieved in our generation. As robots can do all your work and have already created enormous wealth, the government can distribute it to everyone. There is neither rich nor poor people. All companies can be completely nationalized. China will only need one e-commerce company, one sales company, and (communism) can be achieved. No one will go to work for material ends, and most will struggle for spiritual, emotional (things). Human can enjoy or do something artistic and philosophical.”⁸⁷

This idealist and utopian world pointed out by Liu matches the Marxist version of a communist society that the CCP claims to be its ultimate goal.⁸⁸ With the blessing of modern technology, especially AI, human society may have both tremendous wealth and economic equality. This will fundamentally change the way that governments and societies operate.

Moreover, super AI has the potential to fix the low efficiency problem of the planned economy when it comes to decision-making. While there is no way for human central planners – no matter how skilful and knowledgeable they are – to react more quickly and efficiently to information than the market itself, intelligent computing systems can. Super AI with greater memory and a faster ability to process and analyse information is supposed to outperform

⁸⁶ Zeng, J. (2015) *The Chinese Communist Party's Capacity to Rule: Ideology, Legitimacy and Party Cohesion*. Palgrave Macmillan

⁸⁷ Sina (2017) '刘强东：共产主义将在我们这代实现 公司全部国有化 (Liu Qiangdong: Communism will be realized in our generation, all companies will be nationalized)', *Sina*

⁸⁸ Notably, Richard Liu's words sparked considerable controversies. It was not only because his wealth was incompatible with communism but also his comments on nationalization of all companies and realization of communism were made in a sensitive political climate in which the state was strengthening socialist ideology. At the time, many were quite concerned about the diminishing role of private sector and entrepreneurs in Chinese economy.

human intelligence in all areas including decision-making. With a super-intelligent computing system, it may accurately predict the trend of market forces and process the information with unprecedented speed to plan ahead. This super AI-powered “market-based, plan-driven” model may prove its superiority over the conventional market-driven model.

Needless to say, this future vision looks very remote. After all, AI researchers and scientists have not even invented general AI yet, and super AI remains hypothetical. However, the existence of the discussion is helping the CCP. During the aforementioned market reforms in China, the ideas of “communism”, “central planning” and “planned economy” have become derogatory and dated. Many liberals consider them belonging to the ash heap of history, while others believe that they are too utopian to be true. In the AI discussion, when communism is put forward as a scenario of a future world and linked with modern technology, it makes the relevant ideas less negative than they were before.⁸⁹ The “dated and unrealistic” ideas may sound not so bad or radical at all. In this regard, the relevant discussion provides propaganda values to the CCP’s ideological narratives.

Conclusion

An AI revolution will bring tremendous change to human society. In state governance, it has provided a digital tool to improve not only public services but also surveillance programs; the coronavirus outbreak seems to be accelerating an irreversible trend of mass surveillance on a global scale. China has opened its arms to embrace this AI revolution. Its authoritarian regime has made bold moves to invest in AI in order to adapt in the age of AI. China’s unique socio-political environment and ideological belief has allowed it to be a pioneer in applying AI in governance. While it remains to be seen how this AI-powered security apparatus will evolve, China’s practices have shown how digital technology can be tamed to achieve authoritarian ends.

More importantly, AI offers much more than surveillance programs. China’s AI plan is a full package with hopes to boost economic growth and raise its global status. As this article discusses, the overall impact of this Chinese approach is not decided by how AI interacts with the security apparatus but the CCP’s key sources of legitimacy – in other words, whether it can (1) foster a booming AI economy in the short run, (2) maintain a stable social order during the AI revolution and (3) prove superiority of China’s authoritarian and even communist ideological values in the remote future. All of these are challenging tasks with considerable risks, and it remains to be seen whether the CCP will be sufficiently resilient to cope with the challenges. As such, the adaptation of authoritarianism in the age of AI is doomed to be complicated.

⁸⁹ An opinion piece in *Global Times*, for example, argues that the discussion on communism and future technology provides an opportunity for the Chinese public to better understand and support the realization of communism. Shan, J. (2017) ‘Tycoons spark discussion on realization of communism’, *Global Times* available at <http://www.globaltimes.cn/content/1062482.shtml> accessed on 15 September 2020