Shaping AI's Future?

China in Global AI Governance

"China will actively participate in global governance of AI, strengthen the study of major international common problems such as robot alienation and safety supervision, deepen international cooperation on AI laws and regulations, international rules and so on, and jointly cope with global challenges."

- The State Council of China, 2017[1]

Abstract

With the growing challenges brought by AI's rapid development, multiple global AI governance initiatives have been developed to set up AI norms and standards. With China's open ambition to be an AI superpower in 2030, China is keen to play a leadership role in nascent global AI governance regimes. This article argues that China's search for AI leadership is driven by not only domestic regulatory needs but also the desire to gain norm and agenda setting power. China's leadership ambition in global AI governance lies in the wider context of its aspiration to shift from a norm-taker towards a norm-shaper, if not maker. Despite considerable efforts taken so far, however, this article suggests that China is facing enormous challenges to realize its leadership ambition. The current geopolitical landscapes have allowed China limited room in nascent global AI governance regimes to demonstrate its leadership credentials. It remains to be seen how China's role may evolve with the development of global AI governance architecture.

Introduction

As an emerging technology, the rise of AI has considerable potential to transform our society as well as international politics. Rapid technological advances have enabled AI to become an engine for economic development and a catalyst for social transformation. Despite the opportunities and challenges that AI brings, governance of AI is facing a "pacing problem"[2] , i.e. regulations and rules tend to lag behind its rapid development. From the development of AI facial recognition technology and its impact on privacy, the enhancement of state surveillance and its impact on civil rights to the militarization of AI and its associated risks, how to better regulate and govern AI seems to be not only critical but also urgent. Given the transnational nature of many AI issues, how to coordinate a more coherent global response to govern AI has become increasingly important nowadays.

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[1] Graham Webster, Rogier Creemers, Paul Triolo and Elsa Kania, "Full translation: China's 'New Generation Artificial Intelligence Development Plan' (2017)," *New America*, 1 Aug 2017, https://www.newamerica.org/cybersecurity-initiative/digichina/blog/full-translation-chinas-new-generation-artificial-intelligence-development-plan-2017/, accessed on 31 May 2020.

[2] Gary E. Marchant, Braden R. Allenby, and Joseph R. Herkert (eds.) , *The growing gap between emerging technologies and legal-ethical oversight: the pacing problem* (Springer, 2011).

Not surprisingly, nascent global AI governance regimes remain "unorganized", "immature", and "fragmented"[3], where a range of state and non-state led initiatives and different actors have been competing for influence.[4] As an ambitious AI player, China has signalled strong interests in shaping, if not making, the emerging global AI order. With the open ambition of becoming a global AI superpower by 2030,[5] China is envisioning its leadership role in shaping AI's future.

This article provides a first in-depth analysis of China's role in emerging global AI governance. It argues that China's search for leadership in global AI governance is driven by not only domestic regulatory needs but also the desire to gain international norm and agenda setting power. China's leadership ambition in global AI governance lies in the wider context of its aspiration to shift from a norm-taker towards a norm-shaper, if not maker. However, despite considerable efforts taken so far, this article suggests that realization of China's leadership ambition in AI governance is facing enormous challenges especially when nascent global AI governance regimes under the influence of geopolitics and liberal democratic values have in effect allowed China limited room to demonstrate its leadership credentials.

This article proceeds in four subsequent parts. The first part discusses the wider context of China's shifting views towards global governance and how global AI governance sits in this context. The second part discusses the practical needs for AI governance in the Chinese context. The third part describes China's current practices and goals in AI governance. The fourth part analyses the challenges that China is facing to realize its AI leadership, followed by concluding remarks.

The Shifting Chinese Views towards Global Governance and Implications for AI

China's strong interest in global AI governance lies in the wider context of its shifting views towards global governance. Since the People's Republic of China was founded in 1949, the then leader Mao Zedong chose to align with the socialist bloc and later the Third World. At the time, international system was viewed as dominated by the West due to be subverted by communist revolutions.[6] Not surprisingly, Mao's China was very much isolated from international community, and its priority was to focus on how to challenge rather than work with global governance institutions.

Ever since Deng Xiaoping took power in the late 1970s and early 1980s, China's main economic agenda was to take advantage of the global market to develop its economy. This policy approach required much more cooperative relations with the West. China had thus chosen to integrate with international community and increased its engagement with global governance regimes.[7] Nonetheless, the engagement was still limited and selective as China's foreign policy was guided by Deng Xiaoping's "keep a low profile and never claim leadership"

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[3] James Butcher and Irakli Beridze, 'What is the state of artificial intelligence governance globally?', *The RUSI Journal* 164:5-6, Sept 2019, pp.88-96.; Lewin Schmitt, 'Mapping global AI governance: a nascent regime in a fragmented landscape", *AI and Ethics*, Sept 2021, https://doi.org/10.1007/s43681-021-00083-y.

[4] Schmitt, 'Mapping global AI governance'

[5] State Council of China, *Guowuyuan guanyu yinfa xinyidai rengong zhineng fazhan guihua de tongzhi* [New Generation Artificial Intelligence Development Plan] (Beijing, 2017), http://www.gov.cn/zhengce/content/2017-07/20/content_5211996.htm, accessed on 28 Feb. 2020. (国务院关于印发新一代人工智能发展规划的通知)

[6] Hongying Wang and James N. Rosenau, China and global governance', *Asian Perspective* 33:3, 2009, pp. 5-39

[7] Council on Foreign Relations, 2021, China's Approach to Global Governance, https://www.cfr.org/china-global-governance/; Jinghan Zeng, 'Chinese views of global economic governance', *Third World Quarterly* 40:3, 2019, pp.578-94. .

principle.[8] The underlying logic of this principle was based on China's identity as a developing country whose priority should be focusing on domestic rather than international agendas. This principle was also adopted to avoid leadership competition with the US at the global stage so as to maintain a favourable external environment for China to focus on more pressing domestic development.[9]

Despite the rapid growth of Chinese economy, Deng's successors Jiang Zemin and Hu Jintao had largely followed the principle. Under their terms, China had selectively engaged in global governance and fended off substantial global responsibility.[10] This inactive Chinese approach towards global governance had often led to criticism over China as a "free-rider"[11] or "irresponsible power"[12] at the time. To some extent, this had partly contributed to China's "latecomer" status in global technology governance, as will be discussed later.

Scroll forward to 2008, the financial crisis became a critical moment for China to reflect upon its role in global governance. China's relatively successful economic performance during the crisis had suddenly increased the world's expectation of its global responsibility. For example, the concept of "G2" – a vague idea advocating China and the US, the two most influential countries, to work together to solve global problems[13] – had received considerable attention during the crisis. At the time, China openly rejected the idea of G2 as China was neither ready to take any substantial responsibility nor willing to shift its primary focus from domestic issues to international ones, especially when those international problems were considered as a product of the West.[14]

Nonetheless, this crisis intensified China's domestic foreign policy debate over whether "keep a low profile and never claim leadership" principle was dated or not, which is one of if not the most important foreign policy debates in contemporary China. Given the rapidly shifting international political landscapes, Deng Xiaoping's "keeping a low profile and never claim leadership" foreign policy principle as a status quo strategy was increasingly challenged. Opponents argued that China's role and international political landscapes had become fundamentally different from that when the principle was introduced by Deng decades ago.[15] China's huge economic size no longer allowed it to keep a low profile, and it would no longer

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[8] Hongying Wang and Erik French, 'China's participation in global governance from a comparative perspective' ,*Asia Policy* 15, Jan. 2013, pp.89-114; Zeng, 'Chinese views of global economic governance'.
[9] Zeng, 'Chinese views of global economic governance'.
[10] Zeng, 'Chinese views of global economic governance'.
[11] Stephanie Kleine-Ahlbrandt, 'Beijing, Global Free-Rider', *International Crisis Group*, 12 Nov. 2009, https://www.crisisgroup.org/asia/north-east-asia/china/beijing-global-free-rider, accessed on 1 Nov. 2021; Andrew B. Kennedy, 'China and the free-rider problem: exploring the case of energy security', *Political Science Quarterly*130:1, Mar. 2015, pp.27-50
[12] Stewart Patrick, 'Irresponsible stakeholders? The difficulty of integrating rising powers', *Foreign Affairs* 89:6, Nov. 2010, pp. 44-53
[13] C. Fred Bergsten, 'The United States–China economic relationship and the strategic and economic dialogue', Testimony before the Subcommittee on Asia, the Pacific and the Global Environment, Committee on Foreign Affairs, US House of Representatives, 10 Sept. 2009, https://www.piie.com/commentary/testimonies/united-states-china-economic-relationship-and-strategic-and-economic-dialogue, accessed on 11 Oct. 2021.
[14] Jinghan Zeng and Shaun Breslin, "China's 'new type of Great Power relations': a G2 with Chinese characteristics?," *International Affairs* 92:4, 2016, pp.773-94 .
[15] Xuetong Yan, "From keeping a low profile to striving for achievement," *The Chinese Journal of International Politics* 7:2, 2014, 153-84.

be effective in the new circumstances.[16] If China continues to claim no leadership, its passive attitude would only harm its national interests.[17]

It was also argued that China's inactive participation in global governance would only keep China marginalized from the center of power. China would thus have to accept unfair rules and norms made by the West.[18] As such, opponents called for a shift from the previous "keeping a low profile" principle to a new "striving for achievement" principle that advocated China to take on more global responsibility and leadership.[19] Many Chinese strategic analysts viewed the financial crisis in particular as an excellent opportunity that China could not afford to miss as it created a power vacuum.[20] This "striving for achievement" principle noticeably marked a new departure from the original "never claim leadership" principle.

Proponents, however, argued that China's main challenge was still domestic, and it would be counterproductive if China became too active at the global stage.[21] In addition, despite the financial crisis, China's power gap with the US was still very wide.[22] As such, China should continue "keeping a low profile" principle in order to avoid major confrontation with the US. Otherwise, an unfavourable external environment would not be helpful to China's domestic development.

Nonetheless, even proponents agreed that China should take more responsibility. Otherwise, a global governance system without major global players such as China may dysfunction again and thus lead to another global crisis.[23] Therefore, in order to maintain a favourable international environment, China should be more active in participating in global governance. While the debate over China's "keep a low profile and never claim leadership" principle has not been settled yet, a consensus that China should increase its participation in global governance has gradually emerged. Chinese scholars thus have been discussing how China should not only increase its participation in the existing global governance framework but also promote new China-led secondary rule systems[24] – an interesting discussion that sheds light on potential Chinese approaches to engage with the global AI governance.

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[16] Zhongying Pang and Ruiping Wang, 'quanqiu zhili: zhongguo de zhanlue yingdui' [Global governance: China's strategy], *guoji wenti yanjiu [China International Studies],* no. 4, 2013, pp.57-68.
[17] Yan, 'From keeping a lowprofile to striving for achievement'.
[18] Yong Wang, 'Licu G20 cheng quanqiu jingji zhili hexin jizhi' [Push G20 into the core of global economic governance], S*hanghai zhengquan bao* [Shanghai Securities News], 3 Nov. 2011, http://jjckb.xinhuanet.com/opinion/2011-11/03/content_340810.htm, accessed on 5 Sept. 2021.
[19] Yan, 'From keeping a low profile to striving for achievement'.
[20] Yu Zhou, 'Quanqiu jingji zhili yu zhongguo de canyu zhanlue' [Global economic governance and China's participation strategy], *Shijie jingji yanjiu* [World Economy Study], 2011, pp. 26-32.
[21] Zongyi Liu, 'G20 jizhihua yu zhongguo canyu quanqiu jingji zhili' [Conference Review: "Institutionalization of G20 and China's Participation in Global Economic Governance], *Guoji zhanwang* [World Outlook], 2, 2010, pp.26-32+87.
[22] Liu, 'G20 jizhihua yu zhongguo canyu quanqiu jingji zhili'; Jiehao Li and Xinyu Zhang, 'Lun jinrong weiji beijing xia quanqiu jingji zhili jizhi de wanshan yu fazhan' [Discuss the improvement and development of global economic governance in the context of the financial crisis], *Hunan keji daxue xuebao* [Journal of Hunan Technology University], 14: 3, 2011, pp.47-50; Lili Sun, 'Cong yingji jizhi dao hezuo pingtai: G20 zheng zai chengwei quanqiu jingji zhili de shouyao jizhi' [From emergency mechanism to a platform of cooperation: G20 is becoming the primary mechanism for global economic management], *Yafei zongheng* [Asia & Africa Review], 5, 2010, pp. 32-36+60.
[23] Zeng, 'Chinese views of global economic governance'.
[24] Zhang, Dianjun, 'Tigao woguo zai quanqiu jingji zhili zhong de zhiduxing huayuquan' [Increase China's institutional discursive power in global governance], *Qiuzhi* [Seeking knowledge], 3, 2016, pp. 6-8; Xu, Youjun, Minghui Shen, Lin Ren, and Yajuan Wang, 'Quanqiu jingji zhili: jiu zhixu vs. xin guize [Global economic governance: old order versus new rules], Shijie zhishi [World Affairs], 17, 2014, pp. 14-26

Such shifting Chinese thinking towards global governance has become evident since Xi Jinping took power in 2012. Instead of "keeping a low profile and never claim leadership", "striving for achievement" principle has clearly guided China's moves on the global stage. Xi has openly called for China to "lead the reform of the global governance system."[25] Departing from the previous aim for domestic development, the new principle focuses more on promoting political support and leadership at the global stage.[26] In order to put it into practice, China has taken considerable effort in reshaping global order in different areas from global economy, climate change to cyber space.[27] While China's actual conduct in global governance is complicated and multifaceted,[28] its overall strategic aspiration is to move from norm-taker to a norm-shaper, if not maker.

The above context provides the background for China's active search for its role in global AI governance. The current Chinese enthusiasm in shaping AI's future is indeed guided by the new "striving for achievement" principle, which advocates a proactive approach to contest for leadership at the global arena. Global AI governance is considered as a promising area to pilot China's norm-maker role. In areas such as global economic governance, international norms and institutions such as IMF and World Banks have been established for decades. Thus, it has been very challenging for China to re-shape them despite China's growing economic influence – not even to mention considerable criticisms over China as a "revisionist power".[29] Global AI governance, however, is considered as a new and emerging area where norms and institutions are yet to be created.[30] In other words, this leaves more strategic room for China to fill in and realize its leadership credentials. In this regard, China has been planning for early moves to gain an advantageous position in global AI norm and agenda setting.

Not surprisingly, many Chinese scholars are paying close attention to the impact of AI's rapid development on international order and national security.[31] Echoing the aforementioned "striving for achievement" principle to take more global responsibility, there is a general consensus among Chinese scholars that China, as a responsible global power, should be more active when it comes to global AI governance.[32] The discussion has thus focused on how to

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[25] Council on Foreign Relations, 2021, China's Approach to Global Governance, https://www.cfr.org/china-global-governance/;

[26] Yan, 'From keeping a low profile to striving for achievement'.

[27] Zeng, 'Chinese views of global economic governance'; Jinghan Zeng, Tim Stevens, and Yaru Chen, 'China's solution to global cyber governance: unpacking the domestic discourse of "Internet sovereignty', *Politics and Policy* 45:3, 2017, pp.43-64; Zeng and Breslin, "China's 'new type of Great Power relations': a G2 with Chinese characteristics?"; Jinghan Zeng, "Constructing 'new type of great power relations': the state of debate in China (1998-2014)", *British Journal of Politics and International Relations* 18: 2, 2016, pp. 422-42.

[28] Shahar Hameiri and Jinghan Zeng, 'State transformation and China's engagement in global governance: The case of nuclear technologies', *The Pacific Review* 33: 6, 2020, pp. 900-30.

[29] Huiyun Feng, 'Is China a revisionist power?',*The Chinese Journal of International Politics* 2:3, 2009, pp. 313-34.

[30] Weiguang Chen, 'Guanyu rengong zhineng zhili wenti de ruogan sikao' [Some Thoughts on the Issue of Artificial Intelligence Governance], *Renmin luntan: xueshu qianyan* [People's Tribune: Frontiers], 20, 2017: pp. 48-55; Zhe He, 'Xin xinxi jishu geming: jiyu, tiaozhan yu yingdui' [Emergent information technology revolution: opportunities, challenges and strategies], Z1, 2021, pp. 8-11.

[31] Shuai Feng, 'Rengong zhineng shidai de guoji guanxi: zouxiang biange qie bupingdeng de shijie' [International Relations in the Age of Artificial Intelligence: Toward a Transformative and Unequal World], *Waijiao pinglun* [Foreign Affairs Review], 1, 2018, pp. 128-56; Ying Fu, 'Rengong zhineng dui guoji guanxi de yingxiang chuxi' [An analysis of the impact of artificial intelligence on international relations], *Guoji zhengzhi kexue* [Quarterly Journal of International Politics], 4:1, 2019, pp. 1-18; Zelin Guo and Qi Chen, 'Rengong zhineng jishu fazhan dui guoji zhengzhi geju de yingxiang' [The Influence of the Development of AI Technology on the International Political Pattern], *Xueshu qianyan* [Frontiers], 12, 2020, pp.88-91

[32] Chen Gong, 'Rengong zhineng shidai de quanqiu zhili: yiban lujing yu zhongguo fangan' [Global Governance in the Age of Artificial Intelligence: General path and Chinese solution], Renwen zazhi [The

develop and contribute "Chinese solutions" and "wisdom" to tackle governance challenges brought by AI at the global stage.[33] Some Chinese research institutions such as the Institute for AI International Governance (I-AIIG) at Tsinghua University have thus emerged as the times require to provide "intellectual support" to China's participation in global AI governance.[34] Emergent joint efforts are also being made by both academia and corporate sectors to facilitate inter-disciplinary and inter-sector collaboration; for instance, Alibaba and Shanghai Jiaotong University have set up a program together specifically focused on AI governance and international rule of law.[35]

Why does AI need to be governed?

In the broader context of China's shifting views towards global governance, the rapid development of AI has created a series of governance challenges that the Chinese government has to tackle. A notably significant issue concerns the impact of AI on the human labour market.[36] The rise of AI is likely to restructure the workforce and thus result in massive unemployment and widening socioeconomic inequality.[37] The McKinsey Global Institute estimates that the widespread application of AI and automation will force 400-800 million people to change their jobs by 2030.[38] Compared with China's AI near peers such as the US and Europe, China's relatively low labour and production cost have given its private and public sectors less financial incentives for automation. However, up to 100 million Chinese are still estimated to face employment change by 2030, making China the most affected country during this transformation.[39] If not handled well, the potential massive unemployment may threaten social stability at large. Given that social stability is a critical pillar of the Chinese Communist Party (CCP)'s legitimacy,[40] this will present a critical challenge to its rule.

In addition, this labour market transformation will not only lead to considerable job loss but also deepen the already widening socioeconomic inequality. The automatization process is likely to benefit the capital that owns AI technology and the advanced skilled workers while reducing the value of low and medium-skilled human labour. According to Organisation for Economic Cooperation and Development (OECD)'s investigation on AI-related online job

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Journal of Humanities], 8, 2019, pp. 38-46; Zigang Deng, 'Rengong zhineng de quanqiu zhili yu zhongguo de zhanlue xuanze' [The global governance of AI and China's strategic choice], Qiusuo [Seeker], 3, 2020, pp. 182-87; Qiqi Gao, 'Quanqiu shanzhi yu quanqiu hezhi: rengong zhineng quanqiu zhili de weilai' [Global Good Intelligence and Collective Intelligence: The Normative Goal of Artificial Intelligence in Global Governance], Shijie jingji yu zhengzhi [World Economics and Politics], 7, 2019, pp. 24-48

[33] For example, Siyue Liu, "Wei rengong zhineng quanqiu zhili gongxian 'zhongguo zhihu'" [Contributing 'Chinese wisdom' to AI global governance], *Renmin ribao haiwai ban* [People's Daily Overseas Edition], 4 Mar. 2019, https://www.zghy.org.cn/item/123161097594167296, accessed on 10 Nov. 2021; Gong, "Rengong zhineng shidai de quanqiu zhili'

[34] See further information at https://aiig.tsinghua.edu.cn/jgjs/yjyjs.htm.

[35] Yue Xu, 'The Project of Artificial Intelligence and International Rule of Law was launched', *Shanghai Jiaotong University News*, 2 July 2021, https://news.sjtu.edu.cn/jdyw/20210702/154287.html, accessed on 1 Dec. 2021.

[36] Carl Benedikt Frey and Michael Osborne, 'The future of employment: how susceptible are jobs to computerisation?', *Technological Forecasting and Social Change*, 114, 2013, pp. 254-80.

[37] Frey and Osborne, 'The future of employment'.

[38] McKinsey, *Jobs lost, jobs gained: workforce transitions in a time of automation*, (Chicago, New York and London: McKinsey Global Institute, 2017).

[39] McKinsey, *Jobs lost, jobs gained*.

[40] Jinghan Zeng, *The Chinese Communist Party's Capacity to Rule: Ideology, Legitimacy and Party Cohesion* (Palgrave Macmillan 2015).

posting, the skill sets demanded for AI-related workers include technical skills such as python, machine learning, data mining and robotics, and also favourably socio-emotional skills such as communication, teamwork and problem-solving skills.[41] In this case, those with low skills are likely to lose in the shifting job market. In other words, the gap between the rich, who own capital and advanced skills, and the poor, who primarily rely on labour value, is likely to get wider in the age of AI. This will present short and mid-term challenges to the CCP who justifies its rule by being a vehicle to deliver a communist society where everyone has equal access to material goods.[42] Thus, how to govern and mitigate AI-related risks in labour market requires close attention of the CCP.

Moreover, it is likely to result in widening the existing divides and inequalities not only among individual workers but also countries.[43] While advanced technology is always pioneered, developed and controlled by powerful countries and influential companies, there is a high degree of job augmentation and added capacity among developed countries, and meanwhile, the less powerful countries and groups may be placed at the disadvantaged end. Therefore, all countries should pay great attention to the emergent problem, regulating the "winner takes it all" dynamic of AI.[44] In this regard, socioeconomic inequality led by the rise of AI is not only domestic but also international, requiring a global solution. Indeed, a PwC prediction shows that China and the US two countries alone will own 70 percent of the total $16 trillion GDP growth contributed by AI industry.[45] As Lee Kaifu points out,

> "The AI world order will combine winner-take-all economics with an unprecedented concentration of wealth in the hands of a few companies in China and the United States."

This future AI order dominated by the US and China scenario is taken for granted by many Chinese scholars. Many thus argue that, given China's significant role in the future AI order, it needs to work with international society to provide public goods in the field of AI governance.[46] Some even argue that China's AI development has a "special mission" in world politics,[47] and China should contribute to tackling the issue of widening global North-South digital divide.[48] Given that AI will further widen the technological gap between developed and developing countries, developing countries may lose the last chance to develop itself through economic globalization.[49] So the argument goes, China, as one of the very few if not the only developing countries who are capable of becoming a major AI power, is the "hope" of

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[41] Lea Samek, Mariagrazia Squicciarini and Emile Cammeraat, 'The human capital behind AI: Jobs and skills demand from online job postings', *OECD Science, Technology and Industry Policy Papers*, No. 120, https://doi.org/10.1787/2e278150-en, accessed on 13 Nov. 2021.
[42] Although in the long term, AI may be not necessarily bad for the CCP's ideology.
[43] Shuai Feng, 'Rengong zhineng shidai de guoji guanxi'; McKinsey, 'Notes from the AI frontier: Modeling the impact of AI on the world economy', McKinsey Global Institute, 4 Sept. 2018, https://www.mckinsey.com/featured-insights/artificial-intelligence/notes-from-the-ai-frontier-modeling-the-impact-of-ai-on-the-world-economy, accessed on 28 Oct. 2021.
[44] UNESCO, Report of the Social and Human Sciences Commission, *UNESCO General Conference*, 41st, 22 Nov. 2021, https://unesdoc.unesco.org/ark:/48223/pf0000379920#page=14, accessed on 9 Dec. 2021.
[45] Remco Zwetsloot, Helen Toner, and Jeffrey Ding, 'Beyond the AI arms race America, China, and the dangers of zero-sum thinking', *Foreign Affairs*, 16 Nov. 2018, https://www.foreignaffairs.com/reviews/review-essay/2018-11-16/beyond-ai-arms-race?cid=int-flb&pgtype=hpg, accessed on 9 Oct. 2021.
[46] Gong, 'Rengong zhineng shidai de quanqiu zhili'.
[47] Qiqi Gao, 'Zhongguo zai rengong zhineng shidai de teshu shiming' [China's special mission in the age of AI], *Tansuo yu zhengming* [Exploration and Contentio], 10, 2017, pp. 49-55.
[48] Qi Zhou and Songyang Pu, "Yuyue AI shidai de 'nanbei' honggou" [Overcoming the "North-South" divide in the era of AI], Banyuetan [China Comment], http://www.banyuetan.org/gj/detail/20211008/1000200033136201633660534942972301_1.html, accessed on 9 Nov. 2021.
[49] Gao, 'Zhongguo zai rengong zhineng shidai de teshu shiming'.

developing countries, and thus China's AI innovation is to seek developmental rights for not only itself but also the vast number of developing countries.[50] It is argued that China should be the forerunner in AI, providing open, shared AI technologies and application platforms to serve the global community.[51]

Another major concern for governance is AI's impact on data security and privacy. Arguably, China's rapid progress in AI innovation is built on its data advantage. As revealed in the 48th Statistical Report on China's Internet Development, there are over 1 billion Internet users with a penetration rate of 71.6 percent in 2021.[52] Such vibrant market is quite ideal for data collection and algorithm training. However, some predatory data collection has seriously violated privacy and individual rights, which requires immediate regulatory actions from the state. The rapid development and application of facial recognition in particular has been concerning not simply because of the empowerment of state surveillance. With the widespread use of AI technology, there are growing criticisms among the public. Nearly 80 percent of the Chinese respondents of a survey expressed their concern over data leakage, and more than 70 percent regarded it necessary to set up specific regulation body to monitor the use of facial recognition technology.[53]

In addition, AI is a double-edged sword for data security and thus privacy. While many companies rely on AI-enabled solutions to detect and mitigate cyber threats, it also invites unintended security risks. For example, SenseNets, a Chinese company that provides AI-based security protection was reported to leak confidential personal information – possibly including facial recognition data – involving up to 2.56 million users.[54] In response to those issues in data security and privacy, the Chinese government has been exploring ways for regulation and supervision, as will be discussed later.

Moreover, weaponization of AI has drawn considerable discussions nowadays. Some argue that AI will launch a third revolution in warfare, following the first one by gun powder and the second one by nuclear weapons.[55] Future AI-enabled weapons are likely to be "at least equally impactful" as nuclear weapons, aircraft and computers.[56] Therefore, many countries have made heavy investment in exploring AI's value in warfare. With the ambition to build a

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[50] Gao, 'Zhongguo zai rengong zhineng shidai de teshu shiming'.
[51] Tieniu Tan, 'Rengong zhineng de lishi xiangzhuang yu weilai [The past, the present and the future of artificial intelligence], *Qiushi* [QS Theory], https://www.cas.cn/zjs/201902/t20190218_4679625.shtml, accessed on 9 Nov. 2021; Tieniu Tan, 'Rengong zhineng de chuangxin fazhan yu shehui ying xiang' [Innovative development and social impact of artificial intelligence], *Zhongguo renda wang* [NPC.gov.cn], 29 Oct. 2018, http://www.npc.gov.cn/npc/c541/201810/db1d46f506a54486a39e3971a983463f.shtml, accessed on 9 Nov. 2021.
[52] China Internet Network Information Center, *The 48th statistical report on China's Internet development*, (Beijing: CNNIC, 2021), http://www.cnnic.com.cn/IDR/ReportDownloads/202111/P020211119394556095096.pdf, accessed on 10 Nov. 2021.
[53] Nandu AI Ethics Research Group, 'Shiyong renlian shibie chao qicheng shoufangzhe danxin xinxi xielou' [The usage of facial recognition technology, over 70 percent worry about data leakage], *Nanfang dushi bao* [Southern Metropolis Daily], http://epaper.oeeee.com/epaper/A/html/2019-12/06/content_52097.htm, accessed on 1 Dec. 2021.
[54] CCTV.com, 'Rengong zhineng qiye beibao fasheng daguimo shuju xielou shijian' [AI companies are exposed to large-scale data breaches, data of more than 2.5 million people are obtaine], *CCTV.com,* 27 Febr. 2019, available at http://www.ciotimes.com/Information/169764.html, accessed on 1 June 2020.
[55] Kai-Fu Lee, 2021, The Atlantic, https://www.theatlantic.com/technology/archive/2021/09/i-weapons-are-third-revolution-warfare/620013/
[56] Greg Allen and Taniel Chan, *Artificial Intelligence and National Security*, (Cambridge MA: Belfcenter, 2017), https://www.belfercenter.org/sites/default/files/files/publication/AI%20NatSec%20-%20final.pdf, accessed on 11 Nov. 2021.

"world class" army, technology plays a critical role in the Chinese army's "modernization" plan, and AI is a critical emerging technology that the Chinese army is determined to master.

Indeed, to strengthen China's national defence capacity is a key objective of the Chinese State Council's AI plan.[57] As the plan points out, "through AI, (China should) elevate national defense strength and assure and protect national security.[58] This plan also calls to establish an institutionalized communication mechanism between China's defense and civil sectors such as universities, enterprises and research institutes.[59]

Needless to say, weaponization of AI has brought complicated security implications and thus led to concerns about its potential impact. Given AI's military potential, the intensifying great power competitions may escalate the rise of autonomous weapons and robotics. As a report on global military AI market shows, it will grow remarkably and is forecast to reach 26.36 billion by 2027.[60] Additionally, the research and development of autonomous weapons and robotics technology is largely concentrated in a few powerful countries.[61] Thus, to some, a global AI race is "inevitable".[62] China has been closely following how the US has been strategically deploying AI in military use. Likewise, the progress of AI innovation in China and Russia has been frequently highlighted in the US to justify greater urgency and needs to boost similar programs in the US.[63] For example, when addressing the Annual Threat Assessment, Director of National Intelligence Avril Haines referred China to an "unparalleled priority" and a "formidable challenge" to the US.[64] Such perception has contributed to the rise of securitization trend among great powers where AI has been increasingly labeled as a security matter.[65]

Among all these issues, the fact that intelligent weapons can operate without human intervention has raised a series of new ethical questions: for instance, to what extent they can be controlled by human, who should be responsible for the killing or unexpected damage due to flawed algorithm, and how to control the manipulation of autonomous weapons from its design to its use. In short, this is about "when and if an autonomous system kills, who is responsible for the killing, irrespective of whether it is justified or not?"[66] While the character of warfare is transformed from "informatized" to "intelligentized"[67], issues in relation to

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[57] State Council of China, *Guowuyuan guanyu yinfa xinyidai rengong zhineng fazhan guihua de tongzhi*.
[58] Webster et al., "Full translation: China's 'New Generation Artificial Intelligence Development Plan' (2017)".
[59] This call echoes the government's wider vision of military-civil integration in the development of AI technology, which aims to remove the barriers between China's civilian sectors and its military and defense sectors.
[60] Verified Market Research, 'Global military artificial intelligence (AI) market size and forcast', Sept. 2020, https://www.verifiedmarketresearch.com/product/military-artificial-intelligence-ai-market/, accessed on 1 Dec. 2021.
[61] Justin Haner, Denise Garcia, 'The Artificial Intelligence Arms Race: Trends and World Leaders in Autonomous Weapons Development', *Global Policy* 10: 3, Sept. 2019, pp. 331-37.
[62] Future of Life Institute, 'Autonomous weapons: an open letter from AI & robotics researchers', 28 July 2015, https://futureoflife.org/2016/02/09/open-letter-autonomous-weapons-ai-robotics/, accessed on 6 Nov. 2021.
[63] Jinghan Zeng, 'Securitization of artificial intelligence in China," *Chinese Journal of International Politics* 14:3, 2021, pp. 417-45..
[64] Avril Haines, 'Annual Threat Assessment Opening Statement', Office of the Director of National Intelligence, April 14, 2021, https://www.odni.gov/files/documents/Newsroom/Testimonies/2021-04-14-ATA-Opening-Statement-FINAL.pdf
[65] Zeng, 'Securitization of artificial intelligence in China'.
[66] Jayshree Pandya, 'The weaponization of artificial intelligence', *Forbes*, 14 Jan 2019, https://www.forbes.com/sites/cognitiveworld/2019/01/14/the-weaponization-of-artificial-intelligence/?sh=27f7d1663686.
[67] Jeffrey Ding, *Deciphering China's AI Dream*, (Oxford: Future of Humanity Institute, 2018), https://www.fhi.ox.ac.uk/wp-content/uploads/Deciphering_Chinas_AI-Dream.pdf.

weaponization of AI technology needs to be attentively addressed. All the existing solutions to regulate weaponization of AI, including the human-in-the-loop approach, and ban or regulation[68], require a global dialogue. Many thus argue that global treaties on AI are not only important but also timely.[69] According to Fu Ying, a veteran Chinese diplomat, China is highly interested in defining norms to mitigate the risk regarding weaponization of AI.[70]

Above all, the rapid development of AI has posed a wide range of challenges for governance at both domestic and international stages. While national governments and organizations have made a multitude of strategies, initiatives and plans, a global AI governance framework is required to coordinate a collective response in order to jointly tackle the emerging issues of AI technology and develop safe, trustworthy and controllable AI-enabled systems.

China's Goals and Practices

Given China's ambition to be an AI superpower and following its "striving for achievement" foreign policy principle, China is keen to take up leadership responsibility in global AI governance. In order to do so, China has made a series of plans and actions to pioneer AI governance. China's State Council's AI plan in 2017 spelt out a timeline and goals for AI governance. According to the plan,

> "By 2020, China will be… initially establishing AI ethical norms, policies, and regulations in some areas. By 2025, China will have seen the initial establishment of AI laws and regulations, ethical norms and policy systems, and the formation of AI security assessment and control capabilities. By 2030, China will have constructed more comprehensive AI laws and regulations, and an ethical norms and policy system."[71]

Following this ambitious plan in AI governance, China has been actively researching and introducing AI standards and ethics. Progress regarding the protection of privacy and data as well as AI ethics includes but is not limited to the following.

- China's Civil Code was issued in 2020 with specific reference to the protection of privacy and personal information.[72]
- A guideline for self-assessment was drafted in 2020 to propose specific questions regarding the collection and use of personal information by mobile apps.[73]
- New Data Security Law was passed in 2021 to enhance data security and individual and organizational rights.[74]

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[68] https://www.theatlantic.com/technology/archive/2021/09/i-weapons-are-third-revolution-warfare/620013/
[69] https://www.brookings.edu/blog/techtank/2021/03/24/it-is-time-to-negotiate-global-treaties-on-artificial-intelligence/
[70] Gregory Allen, *Understanding China's AI Strategy*, (Washington DC.: Center for a New American Security 2019), https://www.cnas.org/publications/reports/understanding-chinas-ai-strategy, accessed on 28 Feburary 2020.
[71] Webster et al., "Full Translation: China's 'New Generation Artificial Intelligence Development Plan' (2017)."
[72] National People's Congress of China, *Civil Code of the People's Republic of China*, (Beijing, 2020), http://www.npc.gov.cn/englishnpc/c23934/202012/f627aa3a4651475db936899d69419d1e/files/47c16489e186437eab3244495cb47d66.pdf.
[73] National Information Security Standardization Technical Committee, *Self-assessment guide to personal information collection in Mobile Apps*, (Beijing, 2020), https://www.cebnet.com.cn/upload/resources/file/2020/07/27/119628.pdf.
[74] National People's Congress of China, *Data Security Law*, (Beijing, 2021), http://www.npc.gov.cn/npc/c30834/202106/7c9af12f51334a73b56d7938f99a788a.shtml.

- The White Paper on the Mobile Apps Personal Information Protection and Governance was published in November 2021, providing the necessary steps for improving governance mechanisms of mobile apps.[75]
- The Personal Information Protection Law was issued in 2021 to set strict rules over personal information collection and use.[76]
- The Guide to AI Ethics was proposed in 2020 with reference to the research, design, application and usage of AI.[77]
- The Ethical Norms for New Generation AI was released in 2021 to incorporate ethics into AI development and to provide ethical guidance.[78]
- The White Paper on Trustworthy AI was published in 2021, highlighting the importance of fairness, accountability and transparency of AI development and giving advice to the government, companies and industries on how to make AI trustworthy.[79]

All of these progress have signalled the Chinese government's determination in protecting AI-related privacy, security and ethics. They are indeed made in the background that China's law in privacy protection and AI ethics tends to significantly lag behind its AI near-peers such as Europe, and thus the Chinese government has been adopting many regulatory practices of its AI near-peers. In other words, China has largely - or is on the way to - endorsed the similar AI-related regulations and laws with that in Western democratic societies.

A primary difference, however, is that Chinese regulatory actions mainly focus on non-state use of data, while those in the West regulates not only non-state but also state actors, which reflects a crucial difference in cultural and political values. For instance, while American AI policies are to a large extent influenced by multiple stakeholders such as political factions, enterprises and research groups, a "strong government" plays an important role in China's AI policy making.[80] In China, based on the assumption that collective, national interests – often defined by the state – should prevail individual citizen rights if there is a clash, the state is thus granted rights to, for example, access "data affecting national security, national economy, people's livelihood, and public interest" according to its Cyber Security Law.[81] Based on its liberal democratic values, Europe's General Data Protection Regulation (GDPR), however, does not prioritize state interests over individual citizen rights. This different understanding of the relations between individual civil rights and state power provides a basis for a value competition over AI governance that may restrict China's influence, as will be discussed later.

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[75] China Academy of Information and Communications Technology, *Yidong hulianwang yingyong chengxu (app) geren xinxi baohu zhili baipishu* [White Paper on Governance of Personal Information Protection for Mobile Internet Applications], (Beijing: CAICT, 2021), http://www.caict.ac.cn/kxyj/qwfb/bps/202111/P020211119513519660276.pdf

[76] State Council of China, *Personal Information Protection Law*, (Beijing, 2021), http://www.gov.cn/xinwen/2021-08/20/content_5632486.htm.

[77] National Information Security Standardization Technical Committee, *Rengong zhineng lunli daode guifan zhiyin* [A guide to AI ethics], (Beijing, 2020), https://www.tc260.org.cn/upload/2020-11-09/1604910605970089327.pdf

[78] Centre for Security and Emerging Technology, 'Translation: Ethical Norms for New Generation Artificial Intelligence Released', 21 Oct. 2021, https://cset.georgetown.edu/publication/ethical-norms-for-new-generation-artificial-intelligence-released/.

[79] CAICT and JD Explore Academy, *White Paper on Trustworthy Artificial Intelligence*, (Beijing, 2021), http://www.caict.ac.cn/kxyj/qwfb/bps/202107/P020210709319866413974.pdf

[80] Wang You and Chen Dingding, 'Rising Sino-U.S. competition in artificial intelligence', China Quarterly of International Strategic Studies, 4:2, 2018, pp. 241–258.

[81] State Council of China, *Cyber Security Law*, (Beijing, 2016), http://www.gov.cn/xinwen/2016-11/07/content_5129723.htm.

On AI technical standards, a series of documents have been released, including but not limited to the following.

- The White Paper on AI Standardization was published in 2018 and recently updated in 2021 to analyze the issues related to standardization on the level of fundamentals, technologies and applications.[82]
- The Guide to the Building of a National Standard Framework for New Generation AI was introduced as a top-level design in 2020, underlining that preliminary research on over 20 key standards – regarding areas such as key general technologies, technologies in key fields and ethics – is expected to be completed by 2021, followed by the initial establishment of an AI standard system by 2023.[83]
- Specific regulations for some relevant industries such as Smart Car Innovation and Development Strategy (2020) were made to form a system regarding regulations and standards by 2025.[84]
- The National Intelligent Manufacturing Standardization Framework was released in December 2021, aiming to promote standardization, application and international cooperation in intelligent manufacturing.[85]

All of those above actions have been taken to develop a sound Chinese AI standard system, which can be subsequently used to shape global AI standards.

Notably, China's enthusiasm in defining global AI technical standards is a part of its wider efforts in developing and setting standards for emerging technologies. China's desire for AI sits in the wider context of its pursuit of modern technologies, and it is primarily driven by China's history, its contemporary domestic political needs and geopolitical competition especially with the US.[86] In this context, China considers the ability in setting those technical standards critical to gain national leverage in a highly competitive global market.[87] This ability does not only give Chinese companies greater competitive advantage in the global markets but also grant China more influence in global institutions.

Nonetheless, China's previous passive participation in global governance had put it in a disadvantaged "latecomer" status, and the existing global technical standards have been traditionally dominated by the US, Europe and Japan.[88] Thus, following the "striving for

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[82] China Electronics Standardization Insitute, *White Paper on AI Standardization,* (Beijing, 2021), http://www.cesi.cn/images/editor/20210721/20210721160350880.pdf.
[83] National Standardization Committee of China, *Guidelines for the construction of a new generation of national artificial intelligence standard system*, (Beijing, 2020), http://gxt.jl.gov.cn/xxgk/jwwj/202008/P020200825543717473808.pdf
[84] National Development and Reform Commission of China, *Smart Car Innovation Development Strategy, (Beijing, 2020),* https://www.ndrc.gov.cn/xxgk/zcfb/tz/202002/P020200224573058971435.pdf.
[85] Ministry of Industry and Information Technology of China, *Guidelines for the construction of the national intelligent manufacturing standard system*, (Beijing 2021), http://www.gov.cn/zhengce/zhengceku/2021-12/09/content_5659548.htm.
[86] Zeng, 'Securitization of artificial intelligence in China'.
[87] China Electronics News, 'Wanshan biaozhunhua tixi zengqiang AI biaozhun guoji huayuquan' [Improve the standardization system and promote China's international discourse power in AI standards], 1 Sept. 2020, https://www.creditchina.gov.cn/home/zhuantizhuanlan/xinyongdashuju/dashujuwenzhai/202009/t20200901_208888.html; Hongwei Dong, 'Rengong zhineng biaozhun zhiding qingkuang ji woguo yingdui celue'', [The development of international standards for artificial intelligence and China's strategy], *China Infrastructure Security Research Centre, Anquan neican* [Security Insights], 29 Apr. 2020, https://www.secrss.com/articles/19092.
[88] John Seaman, 'China and the new geopolitics of technical standardization', *Notes de l'Ifri*, French Institute of International Relations, 27 Jan. 2020, https://www.ifri.org/en/publications/notes-de-lifri/china-and-new-geopolitics-technical-standardization.

achievement" principle to become a global leader, China has taken considerable efforts in shaping standards for emerging technologies such as 5G, Internet of Things and smart cities where greater space is allowed for China to realize its ambition. In 2021, for example, China released its national strategy for technical standards, in which AI, quantum information, biotechnology among others are highlighted as key technologies whose standards will be studied and advanced.[89]

When it comes to the AI standards, more specifically, it is imperative for China to gain influence not only because of technological dominance and economic gain but also national image and reputation. The current criticisms towards China's authoritarian use of AI such as state surveillance programs are political battles that built on technical standards of AI especially its safety and ethics, as will be discussed later. China is motivated to gain influence in this field in order to construct and disseminate a positive narrative about its AI innovation.

While international standards are regarded as "an agile tool for governance"[90], increased competition has been targeted around regulations and standards. So far, the US and China as well as the EU have been competing to shape international standardization.[91] Not surprisingly, China's efforts in shaping technical standards have generated growing concern in Western countries.[92] In particular, many in the US have been anxious about China's growing influence in setting global technical standards.[93] Some global AI governance initiatives were thus born or developed in this context to counter Chinese influence, as will be discussed later. Meanwhile, the US has also put forward its own plans in gaining an edge in AI standard setting. The American AI Initiative, for example, spelt out the critical role that the Federal government would play in this global standard setting.[94] The geopolitical competition in standard-setting is hardly new in US-China relations. In 2013, for example, failure to meet the standards of existing financial institutions was a key critic that the US used to lobby its allies to contain the China-initiated Asian Infrastructure Investment Bank, which was viewed as a rival of IMF and World Bank at the time.[95]

So far, China has made some progress in developing *national* AI standards. For example, following Chinese Standardization Administration's guidance, Information Technology-AI-Terminology – designed to define common terms and definitions in the field of AI – was drafted by a group of Chinese research institutions and technology enterprises in 2021.[96] This draft acknowledges that it was made in the background that China's AI near-competitors such as the US had submitted their AI terminology and reference architecture to shape global norms. Thus, it is part of the Chinese attempts to accelerate domestic standardization development in order to shape AI standards at the global stage, promoting and projecting its international power. That

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[89] State Council of China, Guojia biaozhunhua fazhan gangyao [National standardization development outline], (Beijing, 2021), http://www.gov.cn/zhengce/2021-10/10/content_5641727.htm.
[90] Peter Cihon, 'AI & Global Governance: Using International Standards as an Agile Tool for Governance', Centre for Policy Research, United Nations University, 8 July 2019, https://cpr.unu.edu/publications/articles/ai-international-standards.html.
[91] Seaman, 'China and the new geopolitics of technical standardization'.
[92] Laurie Clarke, 'Technical standards-setting is shaping up to be the next China-US slowdown', *Tech Monitor*, 15 Jun. 2021, https://techmonitor.ai/technology/technical-standards-setting-shaping-up-next-china-us-showdown.
[93] Clarke, 'Technical standards-setting'.
[94] The White House, *Artificial Intelligence for the American People*, *Trump White House Achives*, ,https://trumpwhitehouse.archives.gov/ai/, accessed on 3 January 2021.
[95] https://www.brookings.edu/blog/order-from-chaos/2015/03/13/a-special-argument-the-u-s-u-k-and-the-aiib/
[96] National Public Service Platform for Standards Information of China, 'Information technology-Artificial intelligence-Terminology', http://std.samr.gov.cn/gb/search/gbDetailed?id=850FC7468166D4C5E05397BE0A0A59CB.

is to say, standardization is not only a means by which Chinese enterprises gain competitiveness globally but also a way for China to "go from being a follower to setting the pace".[97]

Chinese AI experts have also been directly participating in global arenas to shape global AI standards. For example, China's "Information technology - Artificial intelligence - Reference architecture of knowledge engineering", proposed by China Electronics Standardization Institute together with other Chinese expert representatives, has been approved by ISO/IEC JTC 1, Information Security, sub-committee SC 42, AI.[98] Nonetheless, generally speaking, in the global competition for standard setting, China is yet to achieve its ambition. At the global arena, many Chinese proposals for new technical standards have been rejected at very early stage due to poor quality.[99] Part of this is indeed driven by the state's rush to get rid of "latecomer" status and move from a norm-taker towards a norm-shaper if not maker. This approach has inevitably encouraged quantity over quality of Chinese submission. It remains to be seen whether Chinese submission of AI standards will be exceptional in this regard.

Challenges Ahead

Despite China's ambition in AI governance, this article argues that it faces considerable challenges. The existing global AI governance architecture has allowed China limited room to realize its leadership ambition – despite being a nascent field. More specifically, there are two types of major global AI governance initiatives: those embedded in existing global governance institutions and those newly established ones. Currently, most AI global governance initiatives belong to the first group including G7, G20, CCW Group of Governmental Experts on emerging technologies in the area of LAWS (GGE), Council of Europe, United Nations (UN), European Commission, OECD, IEEE and ISO/IEC.[100] China is indeed excluded from most of those multilateral settings formed by a selective Western-based membership such as G7, Council of Europe (CoE) and European Commission – not even to mention some newly created initiatives to counter Chinese influence in global AI governance, as will be discussed later.

Most importantly, as Schmitt points out, in the fragmented and "polycentric" global AI governance landscapes, norm-setting power and influence have been consolidated toward OECD.[101] Despite being a key partner of OECD, China is not one of the 38 member countries, and thus OECD is unlikely to be an effective platform for China to exert its influence. This is hardly surprising given that the global governance architecture is largely built on Western democratic values and a liberal global order. This liberal value based global governance architecture has restricted China's potential in leading global AI governance in many aspects.

Take China's preference for a traditional state-centric, sovereignty-oriented approach towards global governance as an example. This preference is a natural product of China's

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[97] Will Knight, 'China wants to shape the global future of artificial intelligence', *MIT Technology Review*, 16 Mar. 2018, https://www.technologyreview.com/2018/03/16/144630/china-wants-to-shape-the-global-future-of-artificial-intelligence/.

[98] International Organization for Standardardization, Information technology - Artificial intelligence - Reference architecture of knowledge engineering, https://www.iso.org/standard/81228.html; China Electronics Standardization Institute, The project of ISO/IEC knowledge engineering international standard proposed by China was officially approved, *Tencent Cloud*, 26 Aug. 2020, https://cloud.tencent.com/developer/news/682326,

[99] Bjorin Fagersten and Tim Ruhlig, China's standard power and its geopolitical implications for Europe, *UI Brief*, The Swedish Institute of International Affairs, Febr. 2019, https://www.ui.se/globalassets/ui.se-eng/publications/ui-publications/2019/ui-brief-no.-2-2019.pdf.

[100] Schmitt, 'Mapping global AI governance'

[101] Schmitt, 'Mapping global AI governance'.

domestic political environment. In Western liberal democratic societies, the rise of neo-liberalism and civil society has significantly reduced the state functions and thus contributed to the growing influence of societal actors, especially NGOs. This has produced a sizable literature on the theme of "governance without government."[102] When it comes to global governance, the neo-liberal approach advocates a focus on NGOs and international organizations. In China, however, despite its rapid marketization, the state still plays an overwhelming role in socioeconomic affairs, and the role of civil society organizations is very limited. As such, China prefers a state-centric approach towards global governance. When it comes to the aforementioned AI standard setting, for example, in the US, civil society organizations such as the Partnership on AI and The AI Now Institute have led the relevant discussions. In China, however, the role of civil society organizations is much less significant. Instead, the relevant discussion is primarily led by the state and its affiliated organizations with the support of private and commercial sectors.[103]

This state-centric approach is embedded with China's consistent position on the protection of national sovereignty. China frequently refers to "Five Principles of Peaceful Coexistence" - originated and developed by Zhou Enlai and Jawaharlal Nehru during Sino-Indian border negotiation in 1954 - as the solution to establish the new international system and order,[104] in which the first principle is to protect national sovereignty. This is one of the very few common positions held by BRICS [105] and was once hailed by Trump administration.[106] To some, the rise of BRICS and their different state-society relations have indeed posed considerable challenges to the "liberal" aspect of global governance.[107] This conventional state-centric, sovereignty-oriented Chinese position is likely to reflect in its approach towards global AI governance. As some Chinese scholars point out,

> "Sovereign states should be at the top of the AI governance pyramid, with authority to set agendas, formulate policies and reform institutions… in order to face the challenge of information security. It also requires every state to protect national sovereignty and emphasize the role of sovereign states in the development and supervision of AI."[108]

Needless to say, this Chinese state-centric sovereignty-oriented global governance approach is pointing to a very different direction from what most global AI initiatives are currently developing and thus makes China more difficult to shape - let alone lead - those initiatives.

This approach is also difficult to ensure that states can prioritize transnational cooperation – which is essential to global governance – over geopolitical competition. It is particularly

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[102] James Rosenau and Ernst-Otto Czempiel, *Governance without Government: Order and Change in World Politics* (Cambridge University Press, 1992); David Held et al., *Global Transformations: Politics, Economics, and Culture* (Stanford University Press, 1999).

[103] With growing influence of private sectors in AI industry, how the Chinese government regulates and works with its private institutions needs closely observations. The current anti-monopoly enforcement over China's tech giants such as Tencent and Alibaba is an attempt to strengthen state regulations.

[104] Chinese Embassy in the UK, 'Zai heping gongchu wuxiang yuanze de jichu shang jianli guoji xinzhixu' [Establish a new international order on the basis of the Five Principles of Peaceful Coexistence], *gov.cn*, 28 Sept. 2003, https://www.fmprc.gov.cn/ce/ceuk/chn/wjzc/t26363.htm.

[105] Mark Beeson and Jinghan Zeng, 'The BRICS and global governance: China's contradictory role', *The Third World Quarterly* 39:10, 2018, pp.1-17.

[106] Mark Landler, 'Trump offers message of faith', *The New York Times*, 9 Febr. 2018, https://www.nwaonline.com/news/2018/feb/09/trump-offers-message-of-faith-20180209/.

[107] Mattew D. Stephen, 'Rising powers, global capitalism and liberal global governance: A historical materialist account of the BRICs challenge', *European Journal of International Relations* 20:4, 2014, pp. 912-38.

[108] Weiguang Chen and Jing Yuan, 'Rengong zhineng quanqiu zhili: jiyu zhili zhuti jiegou he jizhi de fenxi' [Global AI Governance: an analysis based on governance subject, structure and mechanis], *Guoji guancha* [International Review] 4, 2018, pp. 23-37.

difficult for both the US and China as geopolitical tensions are embedded in almost all aspects of the bilateral relations. When it comes to AI, both US and China consider each other as the main competitor, if not rival. Their geopolitical competition has often overridden the desire for transnational cooperation. To China, the US is the prominent role model for AI innovation. Many of China's AI plans were indeed made precisely because of the anxiety generated by American AI success. From the development of American "Third Offset" strategy in 2014 to the victory of Google DeepMind's AlphaGo over top-ranked human players in the ancient Chinese board game Go in 2016, China's anxiety about American AI success has led to a self-reflection on its own AI strategy.[109]

Likewise, American policy discourse often refers China as the US's "most serious strategic competitor" or "closest competitor." In the relevant analyses, China's AI approach is often oversimplified as a "top-down", "national concerted", "geopolitical driven" strategy that gives China considerable leverage when competing with the US.[110] The relevant narratives labelled China's AI innovation as a threat to American national security, which require urgent actions to be addressed.[111]

Notably, the competition for AI leadership is not only a technological confrontation but an ideological one. While AI is supposed to be more objective and neutral than humankind, it is not value-free. From Europe's "ethics first" approach to the American AI Initiative aiming to develop "AI with American values", values are implicitly and explicitly embedded in different state approaches to govern the use of AI. As previously discussed, China has a fundamental different understanding about the relations between citizens and states from that in Western societies. This has now further developed into a "value competition" over AI under the influence of geopolitics.

In order to embrace the digital age, the Chinese government has taken bold practices to employ AI and big data related technologies in state governance in order to not only strengthen its authoritarian rule but also contest the superiority of Western liberal democracy.[112] To many, this Chinese authoritarian use of AI is concerning especially when advanced digital technology has been deployed to empower its state surveillance capacity to monitor citizens and augment

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[109] Paul Mozur, 'Beijing wants A.I. to be made in China by 2030', *The New York Times,* https://www.nytimes.com/2017/07/20/business/china-artificial-intelligence.html, accessed on 21 June 2020) 2017.

[110] Yiling Liu, 'China's AI dreams aren't for everyone', *Foreign Policy,* 13 Aug. 2019, https://foreignpolicy.com/2019/08/13/china-artificial-intelligence-dreams-arent-for-everyone-data-privacy-economic-inequality/, accessed on 28 Feburary 2020; Shriram Ramanathan, 'China's Booming AI industry: what you need to know'*, Lux Research*, 4 March 2019, https://www.luxresearchinc.com/blog/chinas-booming-ai-industry-what-you-need-to-know, accessed on 28 Feburary 2020; Jaqueline Ives and Anna Holzmann, *Local governments power up to advance China's national AI agenda*, Mercator Institute for China Studies, https://www.merics.org/en/blog/local-governments-power-advance-chinas-national-ai-agenda, accessed on 28 Feburary 2020; Meng Jing, 'Is Xi Jinping's iron grip better than Adam Smith's invisible hand for technology innovation?'*,South China Morning Post,* 14 Nov. 2018, https://www.scmp.com/tech/article/2173128/xi-jinpings-iron-grip-better-adam-smiths-invisible-hand-technology-innovation, accessed on 28 Feburary 2020; Yifan Yu, 'Why China's AI players are struggling to evolve beyond surveillance', *Nikkei Asian Review,* https://asia.nikkei.com/Spotlight/Cover-Story/Why-China-s-AI-players-are-struggling-to-evolve-beyond-surveillance, accessed on 1 March 2020; Jaron Lanier and E. Glen Weyl, 'How civic technology can help stop a pandemic," *Foreign Affairs*, 20 Mar. 2020, https://www.foreignaffairs.com/articles/asia/2020-03-20/how-civic-technology-can-help-stop-pandemic, accessed on 20 March 2020; Kaifu Lee, *AI Superpowers: China, Silicon Valley, and the New World Order* (Houghton Mifflin Harcourt, 2018).

[111] Zeng, 'Securitization of artificial intelligence in China'.

[112] Jinghan Zeng, 'Artificial intelligence and China's authoritarian governance', *International Affairs* 96:6, 2020, pp. 1441-59; Jinghan Zeng, 'China's date with big data: will it strengthen or undermine the authoritarian rule?', *International Affairs* 92: 6, 2016, pp. 1443-62..

authoritarianism.[113] The US government has sanctioned some Chinese AI companies for their assistance to state surveillance in Xinjiang.[114] Some call on Western democracies and like-minded countries to develop AI rooted in liberal democratic values and to unite to fight against the Chinese approach[115] – for example, the building of "The Great Anti-China Tech Alliance" to beat China over "the race to govern digital technology".[116] For AI in defense, the US National Security Commission on AI has specified the need for an integrated strategy to rally allies and partners in the strategic competition with China.[117]

Indeed, various ideology and security based state-led global AI governance initiatives have already been formed to counter China. Take Global Partnership on AI (GPAI) as an example. Based on the shared principles of "human rights, inclusion, diversity, innovation and economic growth", GPAI is considered by the US as a helpful geopolitical tool against China. First introduced by Canada and France in the form of International Panel on AI in 2017, GPAI was originally objected by the Trump administration at the first place due to the concern about the regulations posed by GPAI on American AI innovation.[118] The US's later participation in GPAI was partly driven by the practical need to take advantage of democratic principles as a common ground for AI development in order to counter the growing Chinese influence, for example, in shaping global standards on AI-related facial recognition and surveillance at the United Nations.[119]

AI Partnership for Defense is another example. It was initiated by the US defense department in 2020 to work with American allies, including Australia, Canada, France, Japan and the UK, to develop the military applications of AI and provide value-based governance in defense.[120] According to then Defense Secretary Mark Esper, US Defense department aims to develop a democratic value-based development and application of AI in order to counter

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[113] Amy Webb, 'Build democracy into AI: Human-centered policy is needed to wrest control from China, tech giants', *Politico*, 15 Mar. 2019, https://www.politico.eu/article/build-democracy-into-ai-combat-china/, accessed on 3 January 2021) 2019. Samantha Hoffman, 'China's Tech-Enhanced Authoritarianism', *Testimony before the House Permanent Select Committee on Intelligence Hearing*, 16 May 2019, https://www.congress.gov/116/meeting/house/109462/witnesses/HHRG-116-IG00-Wstate-HoffmanS-20190516.pdf.

[114] Ana Swanson and Paul Mozur, "U.S. Blacklists 28 Chinese Entities Over Abuses in Xinjiang," *New York Times* (available at https://www.nytimes.com/2019/10/07/us/politics/us-to-blacklist-28-chinese-entities-over-abuses-in-xinjiang.html accessed on 1 June 2020) 2019.

[115] Bipartisan Policy Center and CSET, 'Artificial intelligence and national security', June 2020, https://bipartisanpolicy.org/download/?file=/wp-content/uploads/2020/07/BPC-Artificial-Intelligence-and-National-Security_Brief-Final-1.pdf; Rebecca Arcesati, 'Lofy principles, conflicting interests: AI ethics and governance in China', *MERICS*, 24 June 2021, https://merics.org/en/report/lofty-principles-conflicting-incentives-ai-ethics-and-governance-china.

[116] Martin Schallbruch and Andrew Grotto, 'The Great Anti-China Tech Alliance', *Foreign Policy*, 16 Sept. 2019, https://foreignpolicy.com/2019/09/16/the-west-will-regret-letting-china-win-the-tech-race/.

[117] National Security Commission on Artificial Intelligence of US, *Final report: National Security Commission on Artificial Intelligence*, (Arlington, 2021), https://www.nscai.gov/wp-content/uploads/2021/03/Full-Report-Digital-1.pdf

[118] Matt O'Brien, 'US joins G7 artificial intelligence group to counter China', *The Associated Press*, 29 May 2020, https://www.defensenews.com/global/the-americas/2020/05/29/us-joins-g7-artificial-intelligence-group-to-counter-china/; Mia Hunt, 'US abandons boycott of global AI partnership', *Global Government Forum*, 24 Sept. 2020, https://www.globalgovernmentforum.com/us-abandons-boycott-of-global-ai-partnership/.

[119] Hunt, 'US abandons boycott of global AI partnership'.

[120] Patrick Tucker, 'New Pentagon Initiative Aims to Help Allies, Contractors Work Together on AI', *Defense One*, 9 Sept. 2020, https://www.defenseone.com/technology/2020/09/new-pentagon-initiative-aims-help-allies-contractors-work-together-ai/168343/; AI Partnership for Defense, 'AI PfD Joint Statement', 15-16 September 2020, https://www.ai.mil/docs/AI_PfD_Joint_Statement_09_16_20.pdf.

China's AI-enabled "21st-century surveillance state" and Russia's "AI-and-autonomy-enabled command-and-control schemes".[121]

In contrast, G20 is almost the only platform that is not only in line with China's state-centric sovereignty-oriented vision of global governance but also gives China say.[122] Indeed, in 2019, G20 agreed to adopt a "human-centered AI" approach, which China openly subscribed. As Xi Jinping points out during the 15th G20 leaders' summit,

> "We are willing to discuss and formulate global digital governance rules with all parties. China supports the strengthening of dialogue around artificial intelligence and proposes to hold special conferences in due course to promote the implementation of the principles of G20 artificial intelligence and lead the healthy development of global artificial intelligence."[123]

Not surprisingly, researchers in Chinese think tanks, along with others, propose to establish a G20 coordinating committee for the AI governance[124], which is yet to be materialized.

As a core founding member, China has highly valued the role of G20 in global governance.[125] Many Chinese media often hails G20 as the centre of global governance architecture.[126] However, this does not change the fact that the G20 is a very loose forum or "talk shop" with no institutionalized structure such as secretariat to translate ideas into practice. G20, thus, has to rely on individual members or the goodwill of cooperation rather than a G20 relevant body to implement decisions. To what extent G20 can become a leading AI governance platform remains to be a big question – in fact, even the aforementioned G20 AI principles are built on OECD recommendation on AI.[127] Given the limited room in the existing institutions, it would be very difficult for China to realize its ambition of becoming a leader in AI governance, especially when not a few new AI global initiatives are being formed to rival the Chinese approach to global AI governance.

Concluding Remarks

As part of its ambition to be a global AI superpower by 2030, China is keen to play a significant role in the emerging global AI governance. In order to achieve this ambition, it has taken a wide range of domestic and international efforts to prepare for its leadership. This article shows that China's moves are driven by not only pragmatic governance needs but also the desire to be a norm shaper if not maker in the future global AI order.

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[121] Tucker, 'New Pentagon Initiative'.
[122] Except Group of Governmental Experts on emerging technologies in the area of lethal autonomous weapons systems which is more narrowly focused on weapons.
[123] YCNEWS, 'Xi Jinping's speech at the first phase of the 15th G20 leaders' summit (full text)', 22 Nov. 2020, https://ycnews.com/xi-jinpings-speech-at-the-first-phase-of-the-15th-g20-leaders-summit-full-text/.
[124] Thorsten Jelinek, Wendell Wallach, and Danil Kerimi, 'Policy brief: the creation of a G20 coordinating committee for the governance of artificial intelligence'. *AI and Ethics* 1, 2021, pp. 141-50.
[125] Zeng, 'Chinese views of global economic governance'.
[126] Zeng, 'Chinese views of global economic governance'; 'Yidai yilu yu G20 liandong goujian quanqiu zhili tixi xingeju' [One Belt, One Road and G20 linkage to build a new pattern of global governance system], *Zhongguo chanjing bao* [China Industrial and Economic News], 12 July 2017, https://www.sohu.com/a/156464179_160337; Shirong Zhang, 'G20 fenghui: quanqiu weiji yingdui he kangji yiqing de zhongyao pingtai', *Xuexi shibao* [Study times], 10 Apr. 2020, http://www.qstheory.cn/llwx/2020-04/10/c_1125837603.htm.
[127] G20, 'G20 AI Principles', July 2019, https://www.g20-insights.org/wp-content/uploads/2019/07/G20-Japan-AI-Principles.pdf.

Nonetheless, this article also suggests that it is very difficult for China to realize its AI leadership ambition at the current stage. The emphasis on democratic values and selective Western membership under the geopolitical influence in particular has let most existing influential global AI governance initiatives either exclude or directly counter China. While global governance institutions including United Nations (UN), IEEE and ISO/IEC have provided channels for China to exert its influence,[128] China's role in the power centre of global AI governance remains limited. Further observations are required to study China's future moves in shaping existing AI initiatives and possibly creating new ones.

Needless to say, an effective and legitimate global AI governance requires China's inputs given its role as a major AI player. The geopolitical tensions, however, have made an inclusive governance framework difficult to be developed. The technological confrontation between the US and China has led to a growing focus on national competitiveness and ideological struggle. The current trend of labelling AI as a national security matter in both the US and China has also undermined the basis of US-China transnational cooperation in AI.[129]

This geopolitical competition has been not only undermining transnational cooperation but also distracting attention from pressing AI issues that need to be addressed globally. The aforementioned "value competition" over different governance approaches towards AI, for example, has put the most important AI ethics debate – the role and value of human in the AI-enabled world – into shadow. Indeed, many of AI governance issues are transnational and universal even in countries with different political systems. From privacy protection to ethics of self-driving cars to risks in AI-powered autonomous weapons, the central question lies in how to handle the human-robot relations. In other words, the primary focus should be general ethics in human-AI relations rather than ideological values of robots. In spite of all the government ambitious AI strategies, it is imperative to look at ethical challenges that AI poses to humanity. A fundamental issue is how to preserve the superiority of humankind to other forms of life in the age of AI which is anticipated to be superior to humans in intelligence and perhaps morality eventually.[130] While technological advancement seems to be inevitable, the smart AI-driven world needs human intelligence to make AI good for humanity.

In addition, the growing intertwining of geopolitics and technology will have significant impact upon originally "neutral" technical areas. For example, the growing impact of geopolitical competition on global AI standard setting is likely to be made at the cost of quality of standards.[131] While global standards are supposed to be set to purely ensure AI safety and trustworthiness for mankind, they have been increasingly shaped by national states' agendas of securing technological competitiveness in the global markets. The potential compromise on technological quality is definitely not good news when AI is having a growing impact upon our daily lives. In these regards, there are many tasks for nascent global AI governance regimes

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[128] For example, at UNESCO, China's efforts have led to "the first ever document to offer guidance and recommendations on how best to harness AI technologies for achieving the Education 2030 Agenda" - "Beijing Consensus on Artificial Intelligence (AI) and Education". https://en.unesco.org/news/first-ever-consensus-artificial-intelligence-and-education-published-unesco
Chinese experts have also been contributing to the first global recommendation on the ethics of AI, https://en.unesco.org/news/unescos-international-expert-group-begins-work-drafting-first-global-recommendation-ethics-ai

[129] Zeng, 'Securitization of artificial intelligence in China'.

[130] Mathias Risse, 'Human Rights and Artificial Intelligence: An Urgently Needed Agenda', *Carr Center for Human Rights Policy*, May 2018, https://carrcenter.hks.harvard.edu/files/cchr/files/humanrightsai_designed.pdf.

[131] Filippo Gualitiero Blancato, 'Regulate to dominate: the geopolitics of standard-setting in digital technologies and its strategic implications for the EU', *UNU-CRIS*, 8, 2019, https://cris.unu.edu/sites/cris.unu.edu/files/PB-2019-8.pdf.

to accomplish, which need international cooperation and global awareness of the AI-related challenges and ethical issues. In the future AI landscape, it remains to be seen how China's role is evolving along with the development of global AI governance architecture.