ISSUE BRIEF

INSTITUTE OF STRATEGIC STUDIES ISLAMABAD
Web: www.issi.org.pk
Phone: +92-51-9204423, 24
Fax: +92-51-9204658

THE U.S.-CHINA AI AND DIGITALIZATION RACE: GEOPOLITICAL IMPLICATIONS AND STRATEGIC TRAJECTORIES

By
Sardar Jahanzaib Ghalib
Research Associate
Arms Control & Disarmament Centre, ISSI

Edited by
Malik Qasim Mustafa

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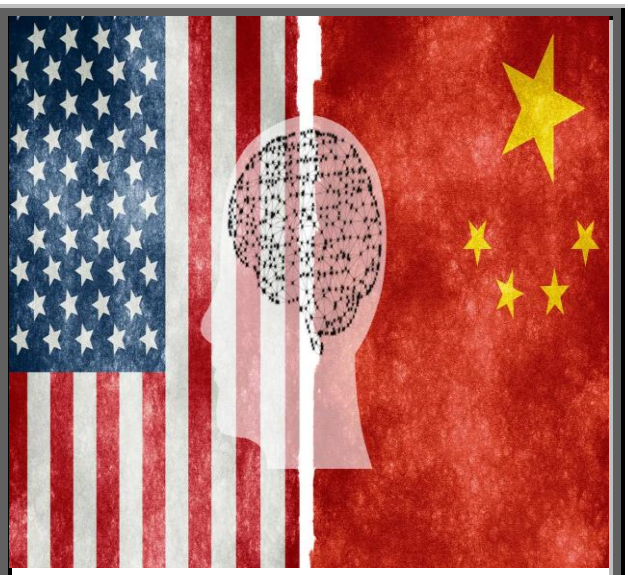

Source: *Modern War Institute.*

The growing advancements in the field of Emerging and Disruptive Technologies (EDTs) between the United States and China signify one of the most critical technological, geopolitical, and security competitions of the 21st century. As both states are vying for technological dominance, AI-driven advancements in economic development, military capabilities, and global digital infrastructure are impacting global strategic stability. One of the most recent examples of this competition has been marked by the emergence of sophisticated AI models and chatbots that work on Large Language Models (LLMs) and Natural Language Processing (NLP) to understand demands and questions of the users and generate responses to them, like China's DeepSeek and the U.S.'s OpenAI's ChatGPT. This new competition in technological dominance has brought more complexity to the already existing tech race and has signaled broader challenges for developing digital sovereignty, regulatory frameworks, and leadership in AI innovation. The U.S. and China are currently involved in efforts to establish their supremacy in EDTs and also to gain control of AI ecosystems, military advancements, and global economic influence.

Strategic Competition and Technological Dominance

Both the U.S. and China have employed various divergent but overlapping strategies to get dominance in EDTs, particularly in semiconductors and in the field of AI. The U.S. is engaged in

research majorly related to AI, algorithms, and the development of semiconductors, and various private sector tech companies are also engaged with the U.S. in boosting AI progress by providing AI intelligence services, such as OpenAI models, Anthropic Public Benefit Startup (PCB)[1] that focuses on research and development on AI and safety properties at digital frontiers, and Google DeepMind. Additionally, the U.S. has been trying to impede China's development in AI capabilities with the help of various regulatory frameworks by limiting its access to more advanced AI chips, which help improve technological performances.

On the other hand, China has used its big data analytics, coordinated state planning, and a resilient industrial approach to propel AI advancement. As part of China's 2025 comprehensive strategies, the "Made in China 2025" strategy aims to make China a tech powerhouse by focusing on domestic production instead of relying on foreign technologies.[2] The "New Generation AI Development Plan" aims to make China a dominant power in AI by 2030 by introducing key economic and strategic drivers through advancements in AI theory, tech, and applications.[3] Moreover, similar to the U.S. private companies, Chinese IT companies like Baidu, a search engine AI-based market; Tencent; and Huawei have established themselves at the forefront of AI research and application by using government subsidies and policy backing.

The United States and China have significantly contrasting approaches to the regulation and governance of AI. The Biden administration's executive order on AI safety was issued in an attempt to define guardrails for AI deployment and its usage to balance out innovation with national security concerns.[4] Nevertheless, President Trump has issued a new Executive Order that aims to strengthen America's AI superiority by eliminating the safeguards set by Biden's administration and instead focusing on a regulatory framework with minimal limitations.[5] China, on the other hand, has adopted a more centralized regulatory position, establishing AI content monitoring guidelines and focusing on the fact that AI developers should abide by authorized models. China has also

1 Jonathan Symcox, "Government Signs AI Growth Deal with American Firm Anthropic," *BusinessCloud* (blog), February 14, 2025, https://businesscloud.co.uk/news/government-signs-ai-growth-deal-with-american-firm-anthropic/.

2 Elsa B.Kania, "Made in China 2025, Explained," *The Diplomat*, February 01, 2019, accessed February 17, 2025, https://thediplomat.com/2019/02/made-in-china-2025-explained/.

3 Shaleen Khanal, Hongzhou Zhang, and Araz Taeihagh, "Development of New Generation of Artificial Intelligence in China: When Beijing's Global Ambitions Meet Local Realities," *Journal of Contemporary China* 34, no. 151 (January 2, 2025): 19–42, https://doi.org/10.1080/10670564.2024.2333492.

4 Cindy Gordon, "Joe Biden Signs An AI Executive Order To Advance Legislation," *Forbes*, October 31, 2023, https://www.forbes.com/sites/cindygordon/2023/10/31/joe-biden-signs-an-ai-executive-order-to-advance-legislation-guardrails/.

5 David Shepardson, "Trump Revokes Biden Executive Order on Addressing AI Risks," *Reuters*, January 22, 2025, https://www.reuters.com/technology/artificial-intelligence/trump-revokes-biden-executive-order-addressing-ai-risks-2025-01-21/.

implemented data localization policies to ensure that AI models built here work within its ideological and political boundaries.

Geopolitical and Security Implications

Besides public-private partnerships, the U.S. and China have also engaged AI to serve as a key component of their military modernization strategies. The U.S. has majorly increased AI investments in the production of Lethal Autonomous Weapons (LAWS) while simultaneously integrating them into intelligence operations and cybersecurity.

In 2023, the U.S. Department of Defence (DoD) released the "Data, Analytics, and Artificial Intelligence Adoption Strategy." This strategy is meant to speed up AI-powered surveillance systems and get more advanced AI capabilities by combining them with existing technologies.[6] This will help these technologies become more stable and effective in the face of new and disruptive technologies. On the occasion, U.S. Deputy Defence Secretary Kathleen Hicks stated that "as we focused on integrating AI into our operations responsibly and at speed, our main reason for doing so has been straightforward: because it improves our decision advantage. From the standpoint of deterring and defending against aggression, AI-enabled systems can help accelerate the speed of commanders' decisions and improve the quality and accuracy of those decisions, which can be decisive in deterring a fight and winning in a fight.[7]" Comparably, China has utilized its Strategic Support Force (SSF) since 2015, which aims to integrate AI into military applications, from cyber to autonomous systems, and to get information domination while integrating AI into all relevant domains of space, sea, land, and air while leveraging AI for LAWS and Intelligence, Surveillance, Reconnaissance (ISR).[8]

The ongoing debate for technological dominance in AI chatbots and machine learning between OpenAI's ChatGPT and China's DeepSeek indicates the broader Sino-U.S. competition. The U.S.-China AI and digitalization race has intensified with the emergence of China's DeepSeek R1, which was released on January 20, 2025; within a few days, DeepSeek AI Assistant became the top app downloaded on Apple's App Store almost instantly, outranking OpenAI's ChatGPT mobile

6 Jake Kauffman, "Dod Releases AI Adoption Strategy," Defense and Munitions, November 2, 2023, https://www.defenseandmunitions.com/news/dod-us-department-of-defense-releases-artificial-intelligence-ai-adoption-strategy/.

7 "Remarks by Deputy Secretary of Defense Kathleen H. Hicks on 'the State of Ai in the Depart," U.S. Department of Defense, November 2, 2023, https://www.defense.gov/News/Speeches/Speech/Article/3578046/remarks-by-deputy-secretary-of-defense-kathleen-h-hicks-on-the-state-of-ai-in-t/https%3A%2F%2Fwww.defense.gov%2FNews%2FSpeeches%2FSpeech%2FArticle%2F3578046%2Fremarks-by-deputy-secretary-of-defense-kathleen-h-hicks-on-the-state-of-ai-in-t%2F.

8 Amy J.Nelson and Gerald L.Epstein, "The PLA's Strategic Support Force and AI Innovation," Brookings, December 23, 2022, https://www.brookings.edu/articles/the-plas-strategic-support-force-and-ai-innovation-china-military-tech/.

app.[9] China's strategic emphasis on cost-efficient AI research is shown by the quick rise of DeepSeek, which was created with a fraction of the cost and processing capacity of its Western competitors. Its open-source approach and sophisticated reasoning capacity challenge the AI industry by directly affecting American tech counterparts and influencing the dynamics of world AI leadership. This competition between the AI models points out significant geopolitical tensions regarding AI dominance and digital autonomy. Both U.S. ChatGPT and China's DeepSeek were designed to work on generative AI models and are equally capable of reinforcing their dominance while working for their Western and Chinese influences respectively.[10]

The growing Sino-U.S. technological disparity in the global landscape is indicative of a more widespread trend of AI fragmentation. The United States has implemented strict export restrictions on semiconductor technology related to AI to contain China and to prevent it from acquiring the advanced AI processors developed by companies like NVIDIA and Advanced Micro Devices (AMD).[11] China is increasing its indigenous semiconductor development in order to mitigate its dependence on Western AI hardware. The objectives of self-sufficiency in AI hardware and software highlight the strategic considerations directed towards AI development on both sides while showcasing future challenges. Given the U.S. aims to retain technological dominance among China's growing self-reliance in artificial intelligence and digital infrastructure, this development creates important geopolitical issues. The DeepSeek discovery shows how AI is rising in major power conflicts and therefore influencing the strategic paths of both countries.

As AI continues to develop, it will have complications for military doctrines, economic structures, and current technological domains globally. The future of competition between China and the U.S. will be shaped by a number of factors including strategic, economic, and technological areas such as healthcare, cars, and banking. As these sectors become more dependent on AI, they will integrate the latest software and hardware advancements. The U.S. strategy is more focused on the private sector which involves advancements; however, China prioritizes a state-led model aimed at achieving national AI self-sufficiency. Both the U.S. and China are undertaking initiatives to continue their AI dominance and also influence global AI governance through multilateral institutions. These efforts will help them to determine the development and deployment of AI technologies globally.

9 "Deepseek Takeover: The Open-Source Ai Rocking the Boat," Sangfor, February 12, 2025, https://www.sangfor.com/blog/cybersecurity/what-is-deepseek-open-source-ai-and-cyber-security-concerns.

10 William Gallo, "DeepSeek vs. ChatGPT Fuels Debate over AI Building Blocks," *Voice of America*, January 31, 2025, https://www.voanews.com/a/deepseek-vs-chatgpt-fuels-debate-over-ai-building-blocks/7958031.html.

11 Karen Freifeld, "US Tightens its Grip on AI Chip Flows across the Globe," *Reuters*, January 13, 2025, https://www.reuters.com/graphics/MAG7-AUTOMATED/MAG7-YTD-20250110/gdvzkgqlbpw/undefined.

The pursuit of dominance in the field of AI and digitalization goes beyond technological competition; it rather encompasses economic dominance, military superiority, and geopolitical influence. While the U.S. has more advanced semiconductor technology, China is progressing rapidly toward AI-driven governance and digital sovereignty. The trajectory of competition will determine the future of digital sovereignty, economic resilience, and global security dynamics as both states try to dominate each other in fields related to AI. The possibility of AI-induced wars calls for worldwide agreements to set AI armaments control systems and crisis management strategies. To prevent AI-driven conflicts and guarantee a stable technological order in the 21st century, it will be imperative to responsibly manage AI's development and deployment with suitable regulatory frameworks.