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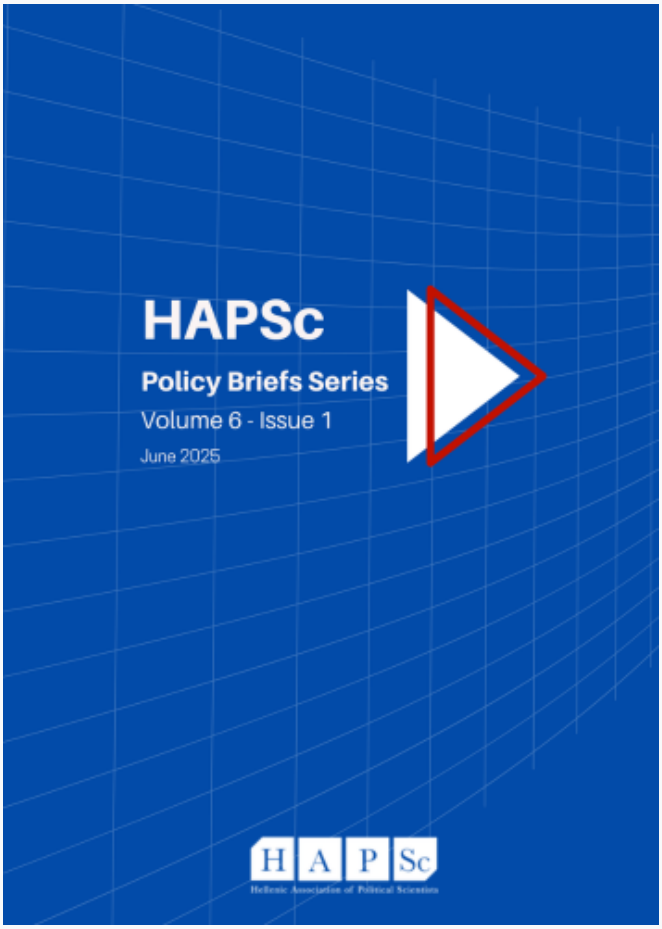

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The Competition between the US and China for AI Dominance[1]

Christina D. Meleouni[2] & Christina Giannou[3]

Abstract

This article aims to comparatively study the strategic approaches of the two superpowers, in conquering Artificial Intelligence (AI) with a focus on American innovation in private sector leadership, to maintain superiority, relative to the People's Republic of China, and their focus on state-supported projects, merging military and civilian AI applications with strong national policies that also aim at AI superiority. By mapping the context of the technological race for leadership between the United States and the People's Republic of China, this paper will illustrate why the current competition is decisive and characterized primarily by the speed of AI development.

Keywords: US, China, AI, new technologies, superpowers.

Introduction

In the modern geopolitical landscape, the race for supremacy in AI has become a decisive battleground, where its reference does not lie solely within the concept of technology, but in speed at which nations develop, deploy and scale AI systems. Many countries compete to achieve an advantage in AI innovation within the global scope, comprehending the gravity of AI. This further promotes competitiveness, that increases productivity, protects national security that both assist in establishing sustainable solutions to challenges within the public sphere (Meleouni, 2021). Studies have shown that the United States and China are both determined to leverage the landscape to develop their AI, that has become a national priority pursued at the highest governmental level. Both state actors have underscored the importance of technology through the realm of economic development, national security and international competition (Wang & Chen, 2018).

Many scholars have argued that a new AI Cold War is evolving on the global stage between the world's two superpowers (Taneja & Zakaria, 2023; Takach, 2024). However, this paper is attempting to demonstrate the divergence of contemporary wars between these powers, and the narrative of traditional Cold War to that of AI Speed Wars. This article will aim to examine this emerging technological competition, by outlining the key strategies employed by the great powers, where both the US and China are vying in control over the future of AI development, and the global economy.

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U.S. Strategy in Artificial Intelligence (AI)

The US has long been a global leader in technological innovation, especially in the field of AI. Specifically, Silicon Valley, which is the global powerhouse to technological transformation, hosts the forefront of digital giants such as, Google, Microsoft and OpenAI. Each of these pioneering titans champion cutting edge research and development, thus redefining the boundaries of AI capabilities while also shaping global trends and standards.

For decades, the US military and security sector have been integrating advanced technology into weapon systems. Autonomous drones, surveillance systems, and AI-powered decision assistance are just a few examples of how advancements in civilian AI are directly influencing military innovation (Kreps, 2024). AI is being used by the US for cybersecurity, intelligence collection, autonomous weapon systems, and predictive analytics as part of its defense and national security initiatives. To ensure ethical use, the US military is concentrating on incorporating AI into its defensive systems while keeping a human-in-the-loop approach to decision-making (Sayler, 2020).

In 2018, in alignment with the National Defense Strategy (NDS), the Department of Defense (DoD) established the Joint Artificial Intelligence Center (JAIC) which published the "AI Strategy" with the purpose to refine and upscale its impact. This was done through a common framework to further enhance development and create a top-tier technological workforce in collaboration with academic, and international allies and partners, with leadership in military ethics and AI security systems (Department of Defense, 2018).

Recently, in January 2025, the White House published the executive order, "Removing Barriers to American Leadership in Artificial Intelligence" with an aim to strengthen US. leadership in the field of AI. The Order recognized the country's hegemony in the discipline of technology and innovation, this was done with the purpose of supporting competition and free exchange of technological advancement (Smith, 1776). Within this realm, the Order upheld research institutions, and the country's entrepreneurial perspective. Moreover, it was also understood that, to ensure America's hierarchy in AI all innovation needed to be within a space of free ideological bias and/or social agendas. Additionally, the Executive Order repealed previous policies and guidelines that were considered barriers to US innovation in AI, to maintain its global leadership. Consequently, it also established an action plan to implement the above policy by encompassing more government officials and agencies (The White House, 2025).

Henceforth, for years, US academic institutions specifically, the Massachusetts Institute of Technology (MIT), Stanford University and Harvard University, all had an integral role in the

development of Artificial Intelligence. Specifically, MIT, widely known for its Computer Science and Artificial Intelligence Laboratory (CSAIL), developed its cutting-edge technologies by collaborating with leading companies in this field (MIT CSAIL, 2025). Furthermore, in 2017, the Institutes' partnership with IBM created the MIT-IBM Watson AI Lab that consisted of scientists from MIT and IBM aimed towards pushing the boundaries of Artificial Intelligence by translating their findings into real-world impact (MIT-IBM Watson AI Lab, 2025; Ravipati, 2017). Furthermore, Stanford University, which lies at the heart of Silicon Valley, connected its academic research with the industry, by supporting start-up companies and fostering partnerships. This synergy further promoted technological innovation through the highly respected and advanced research facility of Stanford Artificial Intelligence Laboratory (SAIL) founded in 1963 by Professor John McCarthy[4] (Stanford Artificial Intelligence Lab-SAIL, 2025).

Significantly, San Francisco's Silicon Valley is the hub for industrial giants such as, Google, Apple, Facebook and Tesla. Notably, each one of these dominant cooperations are currently spearheading investment initiatives in development and implementation of AI. Each is a gateway for ventures to enter start-up incubators with the purpose to fuel robust AI solutions through large funding to talented engineers and researchers within the network of these start-up incubators (Kushida, 2024).

When it comes to creating AI-powered apps for cloud computing, e-commerce, banking, healthcare, and entertainment, the U.S. continues to lead the world (Kreps, 2024). Technological development is rapid, with new models appearing every few months that can understand, create and logically process ever better. The cost of AI training is falling, while computing power is increasing, accelerating innovation. A prime example is the further development of GPT by OpernAI, where in less than 5 years we have gone from GPT-2 to GPT-4, a multimodal model that can process text, images and audio in real time, making it accessible to a wide range of applications (Kapuściński, 2024; Altman, 2025). Amazon is also working on "Kiro", a tool that uses AI to automate software development, reduce coding time and improve developer productivity (Anderson, 2025).

Finally, according to an April 2023 EU report the United States develops 73% of key language models, while China only 15%. American leadership is further confirmed by Stanford's Global Vibrancy Tool, which breaks down AI patents, investments, and publications by nation. It also predicts that in 2023, the US will draw far more private investment in AI than China ($67.2 billion to $7.8 billion) (Kreps, 2024). Moreover, American dominance in AI could be said to be the result of a

[4] John McCarthy was a mathematician and important figure in the field of theoretical computing, who in 1971 received the Turing Prize for his significant contributions to the contributions to the field of Artificial Intelligence (Professor John McCarthy Father of AI, 2025).

synergistic collaboration between academia, industry and government. Remarkably, the US has the largest share of global investment in AI, positioning it as a pioneer, and leader in development technology worldwide (Kreps, 2024).

The Chinese Strategy

The development of technology has become a national priority for the People's Republic of China that it actively and persistently pursues. Eminently, its ambitions in AI have been promoted by the National Central Government, local governments, AI-related patents, research articles, and rapidly growing ecosystem of AI applications (Conroy, 2024).

Back to 2015, the Chinese government launched its competitive strategic plan, "Made in China 2025" to spearhead its scientific advancement and economic growth to further accelerate the country's global technological leadership (Conroy, 2024). Moreover, in 2017 the nation presented another national strategy, the "China AI Plan (Next Generation Artificial Intelligence Plan)", which aimed to position the country's global dominance in AI by 2030 (Khanal, 2024). Emphatically, China sees technological advancement as a critical instrument for increasing its global competitiveness and national security (Olugbade, 2024).

Interestingly, one of China's strongest strategies is the military-political integration known is the Civil-Military Integration (CMI) and the development of advanced dual-use technologies. The Chinese government has openly expressed that advanced technology is "a matter of crucial importance for the future of global military and economic power competition," (Allen 2019). Furthermore, central government believes that emerging technologies will shape and accelerate the pace of warfare, in that any future military success will require forces that are mechanized, information-driven, and intelligent; namely, AI-based technologies (Horowitz & Kahn, 2021).

Notably, when examining China's AI military applications, it is important to note the country's limited war experience. War-gaming and simulations are considered by the Chinese People's Liberation Army (PLA) as tools to improve and optimize the use of AI in military applications that will help China succeed in a future war. However, this is just a small part of the military AI applications China has achieved so far. The lack of real combat experience has not hindered the nation from researching and testing the application of AI in autonomous unmanned systems, for both defense and offence, as well as supporting decision-making by the command with AI (Kania & McCaslin, 2021: 8-10).

With emphasis on useful industrial applications rather than consumer-facing technologies, China is giving AI and related advancements top priority to increase industrial efficiency and economic

growth, particularly in manufacturing and automation. Additionally, there have been significant investments in industrial and humanoid robots to help solve a declining workforce, surpassing both Japan and the United States in robot deployment. However, China is also boosting national R&D investment by 10% to improve basic research and technology skills after realizing its shortcomings in original invention (Dohmen, 2024).

The emergence of DeepSeek is an important example of China's rapid progress in AI and raises questions about the global distribution of power in this technology. DeepSeek's success has shown that innovation and competition in the field of AI is rapidly intensifying. In particular, DeepSeek is a free AI chatbot app, similar to ChatGPT, and has attracted interest as DeepSeek R1 was developed at a significantly lower cost compared to Western counterparts and led to a decline in the share value of US tech companies such as Nvidia, raising concerns about US dominance in the AI sector (Ng, Drenon, Gerken & Cieslak, 2025).

In conclusion, China maintains its global digital footprint having in its capacity more than 4,300 technological enterprises, and with the full support of the Bank of China which intends to invest a staggering amount of over one trillion Renminbi (RMB) in over the next five years to promote startup companies in AI. Interestingly, this comprises one of many examples as how the Chinese government plays a significant financial role to support robust technological advancements (CBaN Editor, 2025).

Conclusions

In the past few years, the landscape of global technological competition has been significantly reshaped by the rapid advancement of AI, as well as the dynamics of international power. As it has become evident through the strategic rivalry between the United States and China in the domain of AI technology, there is a fundamental shift in geopolitical paradigms. Unlike the ideological confrontations of the Cold War era, today's "AI Speed Wars" main characteristics are those of strategic pragmatism, accelerated innovation, and the pursuit of technological dominance through distinct national models.

Further to the technological competition, the speed development of AI changes the dynamics within the realm of global influence. Speed is a primary component in the pelt; henceforth, the country that will subjugate this acceleration will be capable of shaping further generations. Therefore, as AI constantly increases in speed, the challenge becomes two-fold. Specifically, who will prevail, and what paradigm will be formed in the perchance that AI becomes a global force, which in turn will diverge from the traditional Cold War discourse.

One possibility is, either the US or China, could perhaps gain control in the AI landscape, which eventually could have paramount implications especially, in its influence in the global economy, and military strategies. On the flipside, there is the potential that AI may help mold the cooperative framework, that will reshape these superpowers' bilateral and power relations into one where both countries could collectively address global challenges, thus providing solutions both on a domestic and global level which would also encompass job displacement, security risks and ethical concerns.

Ultimately, AI is emerging not only as a transformative technology but also as a geopolitical instrument with far-reaching implications. The outcome of the AI Speed Wars, whether they lead to increased confrontation or to a new era of collaborative governance, will most likely shape the trajectory of international relations and the future global order for decades to come.

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