



U.S.-China Competition in Artificial Intelligence

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Abstract - The U.S. China Artificial Intelligence rivalry is intensifying, driven by rapid advancements in generative AI, semiconductor manufacturing, and the strategic divide between open-source and proprietary AI models. The United States has responded with regulatory measures like the CHIPS Act and export controls to maintain its technological lead, while China has leveraged state directed policies, open-source models, and massive infrastructure investments to accelerate AI adoption. This competition risks escalating into an unregulated arms race, with significant implications for global technological hegemony, privacy, and security. Stakeholders, including governments, tech corporations, and the public, must navigate this landscape with policies that balance innovation, security, and ethical considerations.

Keywords - U.S. China AI rivalry, generative AI, semiconductor manufacturing, open source AI models, CHIPS Act, export controls, AI governance, technological hegemony, AI ethics, global AI competition

I. OVERVIEW

The U.S. and China are locked in a high-stakes battle for dominance in artificial intelligence, where breakthroughs in generative AI and semiconductor technology are reshaping the rules of global competition. The U.S. is doubling down on regulation using policy tools like the CHIPS Act and strict export bans to safeguard its lead, while China is playing a different game, betting big on open source models, state backed infrastructure, and rapid adoption to challenge the status quo. What is unfolding is not just a contest for technological supremacy; it is a clash of systems. The U.S. approach prioritizes security and containment, but the pace of AI development is outstripping regulation, leaving gaps that could

be exploited. China, meanwhile, is turning AI into a tool for accessibility and economic leverage, positioning itself as an alternative to Western models. The stakes of this competition include privacy, security, and the very structure of global AI governance. The question is not just who will win, but what kind of AI ecosystem the world will inherit.

A. EXECUTIVE SUMMARY

The U.S. China AI competition is reshaping the global technological landscape, with each nation pursuing strategies to secure dominance in artificial intelligence. The United States is prioritizing regulatory containment and domestic investment, leveraging tools like the CHIPS Act to bolster semiconductor manufacturing and export controls to limit China's access to advanced AI technologies. Despite these efforts, the rapid evolution of AI has exposed gaps in regulatory frameworks, leaving policymakers and industry leaders grappling with how to balance innovation with security. China, on the other hand, has embraced a state-directed model, investing hundreds of billions in AI infrastructure, promoting open-source models to capture global developer mindshare, and subsidizing domestic firms to reduce reliance on foreign technology. This approach has positioned China as a formidable competitor, particularly in making AI more accessible and affordable. The rivalry

presents significant challenges for stakeholders across the AI ecosystem. Governments in both nations are under pressure to protect national security while fostering innovation, while tech corporations and frontier AI labs navigate a complex regulatory environment. The public, meanwhile, faces growing concerns about privacy, disinformation, and the ethical implications of AI. Without robust guardrails, the unchecked escalation of this competition risks privacy breaches, the proliferation of disinformation, and economic fragmentation. Policymakers must therefore develop strategies that not only preserve technological leadership but also uphold democratic values, protect civil liberties, and ensure equitable access to AI advancements.

B. RELEVANCE

The U.S. China AI competition extends far beyond a bilateral dispute, serving as a defining force in the global technological order. Its outcome will influence how nations regulate AI, shape economic alliances, and redefine national security paradigms in an increasingly AI-driven world. For the United States, maintaining leadership in AI is critical to preserving its economic and military advantages, as well as safeguarding democratic values in the face of authoritarian alternatives. China's push for technological self-reliance and influence through open source models and state backed initiatives challenges the existing global AI governance framework. The stakes are equally high for the global community. The decisions made by the U.S. and China will determine whether AI development is guided by principles of collaboration, transparency, and ethical innovation, or driven by competition, opacity, and zero sum dynamics. Policymakers must therefore approach this rivalry with strategies that prioritize long-term stability, equitable access, and the protection of fundamental rights. Failure

to do so risks not only a fragmented AI ecosystem but also the erosion of public trust in technology. Conversely, proactive and thoughtful policy interventions can foster a more inclusive, secure, and innovative global AI landscape, ensuring that the benefits of AI are shared widely and responsibly.

II. HISTORY

A. CURRENT STANCES

Historically, the United States and China have competed in a variety of different domains, whether that's trade dominance, maritime influence in the South China sea, or the 5G telecommunications race. Now, building on this long standing rivalry, recent rapid Chinese advancements in generative AI and computing power has shifted this battlefield into an arms race toward technological hegemony. This has led the US government to implement strict regulations for frontier models to try to protect its lead.¹ However, AI researchers and policymakers are emphasizing that current regulatory measures are being overwhelmed by the sheer speed of development and scaling in the global AI ecosystem. China has decided to lean into highly capable open-source models to capture global developer mindshare and to accelerate adoption.² As opposed to the US China, has focused on affordable and open models as an economic

¹ The Economist. "How to make AI safe—and lessen dependence on America and China." *The Economist*, 15 July 2026, <https://www.economist.com/leaders/2026/07/15/how-to-make-ai-safe-and-lesser-dependence-on-america-and-china>. Accessed 18 July 2026.

² Luong, Ngor. "Two Loops: How China's Open AI Strategy Reinforces Its Industrial Dominance." *U.S.-China Economic and Security Review Commission*, 23 March 2026, https://www.uscc.gov/sites/default/files/2026-03/Two_Loops--How_Chinas_Open_AI_Strategy_Reinforces_Its_Industrial_Dominance.pdf. Accessed 18 July 2026.

alternative to what they view as restrictive, overreaching Western systems.³

B. TRIED POLICY

Following breakthroughs in Chinese AI models, the US government has since pledged to deploy its largest-ever domestic semiconductor manufacturing subsidies through the CHIPS Act⁴. During other tech cycles, the response has been to use reactive trade tariffs and entity lists, blocking specific foreign firms from accessing American software. Following initial American containment measures, Beijing has since launched massive national infrastructure programs, committing hundreds of billions in state bonds to build out localized AI data center networks.⁵ During other tech cycles, they've aggressively subsidized national champions to foster internal supply chains and to reduce foreign software reliance.

III. POLICY PROBLEM

A. STAKEHOLDERS

The primary stakeholders within the race in AI between the U.S. and China include the respective national governments, major corporations like Google, META, Huawei, and ByteDance, frontier AI labs such as DeepSeek and OpenAI, and the public whose interests and personal privacy or security may be compromised through the development of AI models. While AI

³ PBS News. "China's Xi calls for more global efforts to guide AI, chides U.S. for its curbs on tech sharing." *PBS*, 17 July 2026, <https://www.pbs.org/newshour/world/chinas-xi-calls-for-more-global-efforts-to-guide-ai-chides-us-for-its-curbs-on-tech-sharing>. Accessed 18 July 2026.

⁴ Kurilla, Michelle. "What is the CHIPS Act?" *Council on Foreign Relations*, 29 April 2024, <https://www.cfr.org/articles/what-chips-act>. Accessed 18 July 2026.

⁵ Zaharia, Marius, and Shri Navaratnam. "China bets on faster state-backed projects to shore up growth, avoid broad stimulus." *Reuters*, 16 July 2026, <https://www.reuters.com/business/autos-transportation/china-bets-fast-er-state-backed-projects-shore-up-growth-avoid-broad-stimulus-2026-07-16/>. Accessed 18 July 2026.

leaders like OpenAI and NVIDIA push for government contracts⁶ as they encourage the public to embrace AI as a new norm⁷, individuals increasingly run to Virtual Private Networks (VPNs) like NordVPN or Surfshark to protect their data from being hijacked by AI systems.⁸ This race in AI development will prove to be a contentious battle between not only U.S. and Chinese manufacturing companies, but between the interests of corporations and the general public.

B. RISKS OF INDIFFERENCE

Failure to develop policy in response to this growing competition between the U.S. and China carries various risks including but not limited to unregulated escalation, privacy breaches, and growing disinformation. Not building the appropriate guardrails to keep this AI race in check will push both nations to aggressively advance their A.I. technologies. Accelerated development could risk leading to not only a minefield of disinformation but also potential data-privacy infringement. Privacy concerns have already been exacerbated by the perceived hastiness of A.I. development as more than 70% of Americans believe that their information is less secure because of A.I.⁹

⁶Anniek Bao, 2026. "OpenAI Proposes 5% Stake to Trump Administration to Ease Washington Pressure: Report." *CNBC*. July 2, 2026. <https://www.cnn.com/2026/07/02/openai-proposes-us-government-own-5percent-stake-to-address-political-blowback.html>.

⁷Miranda Nazzaro, 2026. "Nvidia CEO: Society Needs to Change with Advent of AI." *The Hill*. June 17, 2026. <https://thehill.com/policy/technology/5928431-nvidia-jensen-huang-ai-society/>.

⁸Taylor Sutherland, 2026. "Fear of Surveillance Leads to Increased VPN Use." *Securitymag*. March 18, 2026. <https://www.securitymagazine.com/articles/102173-fear-of-surveillance-leads-to-increased-vpn-use>.

⁹Gottfried, Jeffrey, William Bishop, Monica Anderson, Michelle Faverio, Eugenie Park, and Colleen McClain. 2026. "Americans and AI 2026: Chatbots, Smart Devices and Views on Impact." *Pew Research Center*.

C. POLICY CHALLENGES

China has shown significant advancements in the race towards Large Language Model (LLM) dominance in A.I., especially in regards to their embracing of open-source AI models.¹⁰ However, some tech corporations including META have increasingly pushed for the use of open-source models.¹¹ Venture capitalists argue that engagement with open-source AI is necessary to prevent China's global dominance in this sector.¹² Despite insistence from the private sector, Americans still distrust the rapid development of AI, with 63% of Americans believing that AI is advancing too quickly.¹³ This creates a significant rift between the national security interests of the U.S., the battle for hegemony on A.I., and the privacy worries of average Americans. This divide and these colliding interests will be a challenge as to how the U.S. government will approach their policy-making and their battle towards A.I. dominance with China.

<https://www.pewresearch.org/internet/2026/06/17/americans-and-ai-2026-chatbots-smart-devices-and-views-on-impact/>.

¹⁰Misha Glenny, 2026. "China Is Winning One AI Race, the US Another - but Either Might Pull Ahead." British Broadcasting Corporation, April 7, 2026.
<https://www.bbc.com/news/articles/c145enxln0go>.

¹¹Katie Balevic, 2024. "Mark Zuckerberg' Says He's All in on Open Source and Wants It to Win." Business Insider. September 22, 2024.
<https://www.businessinsider.com/mark-zuckerberg-open-source-ai-plans-future-competition-apple-llama-2024-9>.

¹²Yaël Ossowski, 2026. "Why America Must Dominate Open-Source AI." The National Interest. July 15, 2026.
<https://nationalinterest.org/blog/techland/why-america-must-dominate-open-source-ai>.

¹³Gottfried, Jeffrey, William Bishop, Monica Anderson, Michelle Faverio, Eugenie Park, and Colleen McClain. 2026. "Americans and AI 2026: Chatbots, Smart Devices and Views on Impact." Pew Research Center.
<https://www.pewresearch.org/internet/2026/06/17/americans-and-ai-2026-chatbots-smart-devices-and-views-on-impact/>.

IV. POLICY OPTIONS

A. Recalibrating Export Controls Toward Targeted Restrictions

Rather than blanket restrictions, the US could keep limiting only the most advanced chips while allowing case-by-case licensing for midtier processors. The benefits of this option is that it preserves a compute gap on frontier hardware while allowing US firms to recapture some China-based revenue. Additionally, it directs enforcement toward closing loopholes like cloud-based remote access to US chips hosted overseas. Implementing this policy means risking accelerating China's compute scale-up. It has already drawn pushback from congressional hawks who want more oversight of export licensing. Though politically contested between trade and security priorities, the feasibility of this plan is high and already in motion.¹⁴

B. Expanding Domestic Semiconductor Investment

Building on the CHIPS Act, the US could extend semiconductor manufacturing subsidies to reduce long-term dependence on any single supply chain along with building more fabrication capacity at home. The benefits of this option are that it addresses the root vulnerabilities behind export-control policy rather than just managing outbound tech flows, offering durable, long-term competitiveness.¹⁵ However, fabrication buildouts are slow and capital-intensive, offering little near-term deterrence against fast-moving Chinese advances like Cambricon's planned

¹⁴ "US Chip Export Controls Have Cooled Down," East Asia Forum, March 11, 2026,
<https://eastasiaforum.org/2026/03/11/us-chip-export-controls-have-cooled-down/>.

¹⁵ "Administration Policies on Advanced AI Chips Codified, with Reverberations Across AI Ecosystem," Mayer Brown, January 22, 2026,
<https://www.mayerbrown.com/en/insights/publications/2026/01/administration-policies-on-advanced-ai-chips-codified>.

500,000-unit chip delivery in 2026.¹⁶ The feasibility for this plan is moderate, an existing legislative vehicle exists, but scaling it up requires sustained funding amid competing priorities.

C. Strengthening Multilateral Coordination on Chip Diversion

The US could work with allied governments to tighten end-use verification and penalize firms that help divert chips to China, all without necessarily issuing new unilateral rules. This closes transshipment loopholes that undermine unilateral restrictions and signals continued enforcement seriousness, as seen in the \$252 million fine against Applied Materials for illegal exports.¹⁷ However, this plan is slower and more diplomatically complex than unilateral action, requiring buy-in from partners whose economic interests may not fully align with US priorities. The feasibility for this plan is moderate, as existing enforcement infrastructure helps, but success hinges on sustained allied cooperation.

V. CONCLUSION

The intensifying AI competition between the United States and China represents far more than a technological rivalry; it is a contest over the future structure of the global economy and AI governance. While the United States has relied primarily on export controls and domestic semiconductor investment to preserve its technological advantage, China has accelerated innovation through state-backed investment as well as long-term industrial planning. As both countries continue to expand their AI capabilities, the absence of coordinated safeguards risks

¹⁶ Kyle Chan, "Competing AI Strategies for the US and China," Brookings, April 16, 2026, <https://www.brookings.edu/articles/competing-ai-strategies-for-the-us-and-china/>.

¹⁷ "US Chip Export Controls Have Cooled Down," East Asia Forum, March 11, 2026, <https://eastasiaforum.org/2026/03/11/us-chip-export-controls-have-cooled-down/>.

increasing geopolitical tensions and shattering global technology markets through privacy violations and the spread of disinformation.

Moving forward, policymakers should pursue a balanced strategy that protects national security without unnecessarily restricting innovation. Strengthening domestic semiconductor production and expanding cooperation with international partners can help maintain technological competitiveness while limiting unintended economic consequences. At the same time, both governments should recognize that long-term AI leadership depends not only on computational power but also on establishing credible standards for security and responsible development. By combining strategic investment with effective governance, the United States can better position itself to compete globally while ensuring that advances in artificial intelligence benefit society rather than deepen international instability.

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