***Dirasat***: Human and Social Sciences, Volume 53, No. 10, 2026, 10580

Deanship of Scientific Research

# The U.S.-China Competition in Artificial Intelligence and Its Implications for Shaping Military Strategies

***Amani Khalid Abdulhadi****

Department of Business Administration, College of Administration and Economics, University of Baghdad, Iraq.

Received: 28/1/2025
Revised: 17/3/2025
Accepted: 15/6/2025
Published online: 23/7/2026

* *Corresponding author:*
amani.k@coadec.uobaghdad.edu.iq

Citation: Abdulhadi, A. K. (2026). The U.S.-China Competition in Artificial Intelligence and Its Implications for Shaping Military Strategies. *Dirasat: Human and Social Sciences*, 53(10), 10580. https://doi.org/10.35516/Hum.2026.10580

© 2026 DSR Publishers/ The University of Jordan.

This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY-NC) license https://creativecommons.org/licenses/by-nc/4.0/

**Abstract**

**Objectives**: This study investigates the U.S.-China competition in the field of artificial intelligence (AI), focusing on its implications for both countries' military strategies. It also offers a forward-looking assessment of how this rivalry may influence international security and geopolitical stability.

**Methods**: The research adopts an integrative theoretical framework combining realism—which emphasizes military power and strategic dominance—and technological innovation theory, which highlights the role of emerging technologies in global power shifts. A descriptive and analytical approach is employed, synthesizing academic literature, policy reports, and strategic documents from 2010 to 2030.

**Results**: The U.S.-China AI competition is significantly reshaping the global power balance. While the United States aims to preserve its technological and military superiority, China is rapidly closing the gap to bolster its regional and global standing. The study finds that AI enhances military deterrence through precision, efficiency, and cost-effectiveness, yet also introduces risks, including arms races and conflict escalation, particularly in the absence of international regulatory mechanisms.

**Conclusions**: The study recommends the establishment of a global legal framework for AI applications in warfare, enhanced transparency through diplomatic engagement among great powers, and the promotion of peaceful AI uses in sectors such as healthcare, education, and disaster response.

**Keywords**: U.S.-China competition, artificial intelligence (AI), military strategy, geopolitical rivalry, international conflicts, arms race, technological innovation.

# التنافس الأمريكي-الصيني في مجال الذكاء الاصطناعي و انعكاساته على صياغة الاستراتيجيات العسكرية

*أماني خالد عبد الهادي**

قسم ادارة الاعمال، كلية الادارة والاقتصاد، جامعة بغداد، بغداد، العراق

**ملخّص**

**الأهداف:** تهدف هذه الدراسة إلى استقصاء التنافس بين الولايات المتحدة والصين في مجال الذكاء الاصطناعي من خلال آثاره على الاستراتيجيات العسكرية لكلا البلدين، وتقديم تقييم مستقبلي لكيفية تأثير هذا التنافس على الأمن والاستقرار الدوليين.

**المنهجية:** تعتمد الدراسة على إطار نظري تكاملي يجمع بين الواقعية، التي تؤكد على القوة وأولوية التفوق العسكري، ونظرية الابتكار التكنولوجي، التي تبرز الدور التحويلي للتكنولوجيا في إعادة تشكيل الديناميكيات العالمية للقوة. وقد تم استخدام المنهج الوصفي التحليلي، من خلال تحليل الأدبيات والتقارير السياسية والاستراتيجيات المؤسسية ضمن الفترة الزمنية الممتدة من 2010 إلى 2030.

**النتائج:** إن التنافس في مجال الذكاء الاصطناعي بين الولايات المتحدة والصين يُغيّر ميزان القوى العالمي. تسعى الولايات المتحدة إلى الحفاظ على تفوقها العسكري والتكنولوجي، في حين تحاول الصين تقليص الفجوة وتعزيز نفوذها الإقليمي والعالمي. وتُظهر النتائج أن الذكاء الاصطناعي يُعيد تعريف مفهوم الردع العسكري من خلال تقنيات فعالة ودقيقة وذات تكلفة منخفضة، لكنه في الوقت ذاته يزيد من المخاطر مثل سباق التسلح والتصعيد نتيجة غياب إطار تنظيمي عالمي.

**الخاتمة:** توصي الدراسة باعتماد إطار قانوني دولي لاستخدامات الذكاء الاصطناعي في الحروب، وزيادة الشفافية من خلال الحوار بين القوى الكبرى، وتعزيز الاستخدام السلمي للذكاء الاصطناعي في مجالات الصحة والتعليم وإدارة الكوارث.

**الكلمات الدالة:** التنافس الأمريكي-الصيني، الذكاء الاصطناعي (AI)، الاستراتيجية العسكرية، التنافس الجيوسياسي، الصراع الدولي، سباق التسلح، الابتكار التكنولوجي.

**Introduction**

the current study focusses on one of the most powerful battlegrounds for the most influential great powers, and it is the emerging field of AI, with the United States and China currently embroiled in an arms race to dominate it. At the outset of the second decade of the 21st century, worldwide attention has increasingly focused on artificial intelligence (AI) technology, of which harnessing it has become a potent tool for enhancing economic and military power (Chang, 2021). The United States, a pioneer in technological innovations has invested heavily in creating AI systems to bolster its military superiority and strategic dominance. As a response, China has matched those other countries in their technological capabilities, devising a broad government-led strategy to make China a world leader in AI technology by the year 2030 (Spencer, 2020).

This competition goes beyond the technological applications domain into the military domain with both countries focused on achieving technological superiority to bolster their military capabilities and strategic dominance, which is the most significant shift in warfare in modern history. Emerging technologies, including autonomous weapon systems, drones, and intelligent warfare systems, have become the backbone of military strategy and global dominance (Liu & Li, 2024). This technological and military competition is the most notable component of the rivalry of these two great powers in this age, with vast and deep ramifications for the international system and the future of global stability.

This research analyzes AI technologies from game changes regarding military specifically affected by the development of AI technologies while examining the competition's security and strategic implications for the international system.

In addressing this question, the study examines a range of dimensions of this rivalry, beginning with an assessment of technological progress made on the part of both nations, and their implications for the military and strategic balance. So, from this viewpoint, the research problem is broadly important not just in terms of understanding the trajectories of international relations, but also in assessing the significance of modern technology in rebalancing future balance of power.

**Theoretical Framework**

The significance of this research stems from its focus on a pivotal issue in contemporary international relations, as the technological competition between the United States and China drives fundamental shifts in the global balance of power. Theoretically, the research sheds light on the close relationship between advanced technology and military strategies, contributing to the enrichment of academic literature on international relations. It also aims to provide a comprehensive understanding of how artificial intelligence (AI) influences the formation of national power among major states, highlighting the interplay between technological innovation and international conflicts. Practically, this research offers an in-depth analysis that can assist policymakers in understanding the strategic and security implications of this competition, enabling them to develop balanced policies and strategies to address the risks and opportunities posed by these technological advancements. Additionally, it serves as a valuable resource for governments and international organizations in assessing how AI competition impacts global stability, with an emphasis on the necessity of fostering international cooperation to prevent escalating tensions.

Furthermore, the study opens new horizons for understanding the future of international relations in the context of the technological revolution, making it a critical reference for future research exploring the role of technology in reshaping the dynamics of power and influence among major states.

The fast-paced evolution of AI technologies has added a new and multifaceted dimension to the military competition between the U.S. and China, two global superpowers vying for technological and strategic preeminence. Also, with machine learning and deep learning algorithms, the AI used to improve and increase the efficiency and effectiveness of the weapons used on the actual battle ground and consequently on the overall military operation. This surge in competition raises fundamental questions around strategic stability, military deterrence, and the potential for an AI arms race.

Despite the growing militarization of AI, no international regulatory framework currently exists to govern the military use of this technology. The lack of oversight can create unfavorable conditions for unintended escalations, ethical dilemmas, and the emergence of AI-kicked conflict, especially when autonomous systems reduce human scrutiny in critical decision-making. On top of this, American and Chinese approaches to AI development are fundamentally distinct: bottom-up

innovation in the U.S. versus top-down state control in China—which in turn creates a security dilemma, whereby each country increasingly views the other's advantages as a direct threat, leading to ever more militarization.

To address these challenges the study aims to answer the following questions:

1. How does U.S.-China AI competition affect military strategies and global security?
2. What are the dangers posed by AI-driven military developments and what can international governance mechanisms do to mitigate these threats?
3. How does artificial intelligence influence the balance of global power, and what might be the long-term impact of these changes on international stability?

This paper explores parts of these competitions and considers the implications of the U.S.-China competition in AI on the development of military strategies for both countries. The research adopts a synergistic theoretical framework that integrates the traits of realism, underlining the ideas of power and hegemony, and technological innovation theory, asserting the revolutionary role technology has on the correlation of power dynamics, with the following objectives:

1. To study the dimensions of technological competition between the United States and China in the field of artificial intelligence.
2. To analyze the implications of this competition for the military strategies of both nations.
3. To provide a future vision of how this competition affects international security and stability.

The study consists of multiple sections which include the introduction outlining, importance of artificial intelligence for shaping military strategies and the increasing competition between the US and China. It moves to outline the theoretical framework applied, a combination of realism and theories on technological innovation, to examine the interaction of power dynamics and technological progress. The second section is the Literature review, which includes relevant studies on the U.S.-China competition, including military applications of AI and its geopolitics. The methodology section adopts a descriptive-analytical approach, employing data from strategic documents, academic sources, and international reports to assess the competition's effects on military capabilities and global stability. The analysis explores the practical impact of the AI race beneath high-level models, using theories of realism and innovation to analyze capabilities on both sides and how they interplay with deterrent and power dynamics. The study ends with findings and recommendations that reinforce the importance of international regulatory frameworks, transparency and collaborative approaches to balancing risks and promoting the responsible development of AI.

The Study rests upon an integrative theoretical framework that blends two pertinent theories in assessing global engagement and assessing the high technology contest:

Realism Theory: One of the oldest theories of international relations, realism theory that prescribes power as a guiding principle for how states behave. According to realism, states are primarily concerned with survival in an international system and thus seek to augment their power (Wu, 2020). Within the framework of this research, U.S.-China competition on AI is an intense competition for military and technological superiority. The United States thinks of AI as a way of preserving its military dominance; as well China treats with it to enhance its power as an emerging global force.

Technological Innovation Theory: This theory argues that economic and military transformations driven by technological innovation (Zhao, 2024). Using AI in military domains can fundamentally transform the order of power between states. In this regard, the study focuses on the impact of AI innovations on the military and strategic capabilities of the United States and China, including micro robot and smart weapons and the application of AI in data analysis and decision-making.

By integrating realists and the Technological innovation theory, we obtain a holistic analytical framework that illustrates how technology can turn out to be the trump card in strengthening national power. Realism focused on material power, but the theory of technological innovation shows how technology can change the nature of power itself. Hence in the context of the U.S.-China competition, AI is not just a means of bolstering military capabilities but a crucial factor in altering global balance of power.

**Literature Review**

The AI competition between the US and China is one of the defining features of modern geopolitical and military competition, and AI is one of the cores of global strategic power.

Horowitz et al. (2022) noted that AI application within military strategies reinforces the decision-making process with increased operational efficiency and improvements in automated battle systems. Their analysis highlighted the American urgency to maintain the technological edge, Sullivan (2021) provided a detailed summary of U.S.-China competition on artificial intelligence (AI), emphasizing the fundamental differences in the possible trajectories of military applications of AI in these two nations. Such differences are not only technological in nature, but they also have far-reaching strategic implications, particularly in terms of the proliferation of autonomous weapons and AI-enabled intelligence systems, with direct bearings on global security and stability. By contrast, China is pursuing a state-led AI strategy in its "New Generation AI Development Plan," in which government funding directly accelerates the migration of AI into its military and war-fighting capabilities. China's regime, through state-owned enterprises and co-opted academic institutions and military-civil fusion programs, is fast-tracking AI-powered automation of warfare, ranging from autonomous missile guidance systems to intelligent combat platforms, not to mention its AI-enhanced cyber warfare capabilities.

Spencer (2020), building on this, asserts that incorporating AI into military activities amplifies the U.S.-China security dilemma, stimulating miscalculation and escalation risks. AI tech developed in secrecy, and this has heightened mutual distrust and further disrupted the strategic landscape, especially related to cyber-warfare and autonomous systems. Like this position is Mori (2019), who examines the dual-use character of AI technologies and particularly their use in advanced logistic and battlefield management systems. Thus, Mori emphasizes that this intermixing of industrial and military capabilities serves to crystallize the multidimensional nature of the competition itself, wherein the US and China are in fact competing for technological superiority everywhere, both in the civilian and military realms.

It also ties nicely into Prochaska (2020) who position the U.S.-China AI competition in a geopolitical context, saying that AI will transform not only military methodologies, but global governance architectures and relationships. The author emphasizes the importance of AI in areas like cybersecurity and autonomous weapons systems, proposing that dominance in AI will play an essential role in future power dynamics. Collectively, these studies show that the competition between the United States and China in artificial intelligence is complex, involving technological innovation, military integration, and more general geopolitical shifts.

The reviewed literature collectively identifies AI as an area of strategic centrality in the U.S.-China rivalry with opportunities and risks on both respective sides in the battle for AI dominance. As AI drives unprecedented advancement in military efficacy and decision-making, it also introduces critical threats to international security and stability. This highlights the crucial importance of international regulation frameworks and collaborative mechanisms that address the risks of escalation while also ensuring that AI technologies developed for responsible use in military contexts.

Meanwhile, as opposed to certain earlier analyses of U.S.-China competition regarding AI that focused exclusively on technological capabilities or geopolitical aspects, this study offers a novel and integrative framework drawing on realism-based approaches and technological innovation theory to examine how AI. Existing literature such as Sullivan (2021) and Horowitz et al. (2022) and Prochaska (2020), on the other hand, analyze from different individual angles and specialties of international relations on implications of AI on strategic stability and military deterrence but tend to analyze one side of the interaction only, strategic military innovations in isolation or the potentialities of AI in international relations in relative . However, this study fills the void by providing a dual-theoretical approach demonstrating how AI operates not only as a force multiplier for military contests but also as a transformative force that is reshaping the landscape of what constitutes strategic competition and the fabric of international security architecture. Furthermore, this study is unique as the existing studies only talk about risks related to AI militarization and its influences on deterrence whereas this study enhances literature by offering policy recommendations for international governance, transparency, and responsible military AI development. This study highlights the dual nature of the relationship between technology and geopolitics, showing not only how emerging technologies impact global order, but also utilizing this analysis to offer early insights into how AI will

shape military strategies, security policies, and global stability in the following decades.

**Methodology**

The descriptive and analytical method used in this study allows the U.S.-China competition in AI and its military aspects described and analyzed. The first part deals with the descriptive aspect of the phenomenon and the second one are what makes it possible to understand better the dynamics and the relations of the different variables linked to it.

Study Approach: The study centers around the data collection and analysis of the progress of AI technologies in the US and China. Based on the work of military international media, academic studies, and strategic documents from both countries, an overview of how this technology is being explored in the military field.

Analytical Tools: The study uses several different tools for the analysis study. This consists of reports from international organizations (the United Nations and the Organization for Economic Co-operation and Development (OECD)), governmental documents, as well as national strategies from both countries. The study relies on military applications of AI included in scientific research publications to measure the repercussions of such competition on the balance of power.

**Study Boundaries:**

The time of the study is from 2010 - 2030, an era of extremely fast-growing AI technologies. Geographically, it limited to the AI-related policies and governance strategies of the United States and China. Thematically, the training focused on artificial intelligence as it relates to military application and the implications of that for strategy. On the data analysis side, the paper provides a thorough examination of both the tract and path the US and China are taking on AI and how each one is leveraging AI to bolster their military. The analysis also discusses broader implications of this competitive instinct, including security issues such as how the risk of a technological arms race could be in play, before concluding with a discussion of the nature of the competition and its potential effect on global stability.

**Analysis:**

The analysis in this study through the lens of a methodological approach based on two core theories, namely realism and technological innovation theory, to frame the U.S.-China competition in AI. We undertake this process not to analyze the collective dynamics of technological rivalry that the two countries exhibit but specifically focus on the implications of what that means through the lens of AI gateways inside the military domain and its relationship to the broader international system.

This analytical stage utilizes the descriptive-analytical method to gather and assess information on the evolution of AI in the two countries and its influence on military doctrine. Research tools range from international organization reports and scholarly studies to the U.S. and China's official national plans, allowing for an integrated view.

Realist theories draw attention to military power and global dominance as ultimate aims, and, conversely, the revolutionary potential of technological innovation shapes the contours of power as we know it. Leveraging these tools and frameworks, this research explores the facets of U.S.-China competition on AI and their implications for global stability, as well as regional security.

**Analysis of Competition Using Realism Theory:**

Realism, as explained in table 1, is a critical theoretical lens through which to understand the U.S.-China AI race, with its emphasis on relative power, military superiority, and great power competition in the anarchic nature of the international system. According to realism theory, the states will prioritize national security and military means to survive and keep their part of the global order (Wu, 2020) Furthermore, the U.S. and China share a competitive pursuit of technological dominance that flows through the rapid coining of AI into military templates, wherein AI actively drives military balance and strategic deterrence apart from being an advancement (Sullivan, 2021).

**Table 1: The U.S.-China Competition in AI from a Realism Theory Perspective**

| Dimension | United States | China |
|---|---|---|
| **Strategic Goal** | Maintain military and technological superiority | Achieve parity with or surpass U.S. military capabilities |
| **AI Investment Areas** | Unmanned aerial vehicles (UAVs), smart weapons, autonomous defense systems | Drones, robotics, autonomous systems for regional conflict management |
| **Policy Approach** | Innovation driven by private sector and defense collaboration (e.g., JAIC, Project Maven, NSCAI) | State-led initiatives such as "New Generation AI Development Plan" and "Made in China 2025" |
| **Geopolitical Focus** | Maintain influence in global conflicts (Indo-Pacific, Middle East) | Strengthen regional dominance, especially in the South China Sea and Taiwan |
| **Underlying Principle** | Preserve military dominance to deter threats and project global power | Leverage AI to challenge U.S. dominance and achieve strategic balance in the region |

**Source:** Horowitz et al. (2022); Sullivan (2021); Stokes (2024); Johnson (2021); Zhao (2024); Wu (2020); Truong (2023); Kretzmann (2024); Matheswaran (2021); Rovio (n.d.); Prochaska (2020); Spencer (2020); Miskelley (2024)

Traditionally, the technological edge of the United States built on a world-class research ecosystem combined with contributions from the private sector and a military industrial complex that allowed the United States to act defensively and offensively (Horowitz et al. 2022). The United States has made several policies and strategies to make artificial intelligence work in its favor in enhancing its strategic superiority in military usage. A primary policy is the DoD AI Strategy of 2018, which set in motion integrating AI across each U.S. military branch. Shortly after, the Joint Artificial Intelligence Center (JAIC) created to expedite the implementation of AI for military applications including autonomous strike platforms, predictive intelligence, and automated cyber-defense mechanisms (Stokes, 2024).

The U.S. National Security Commission of AI (NSCAI) in its 2021 report highlighted the strategic value of AI in not only maintaining technological and military superiority globally but also laid the ground with policies to promote AI-driven battlefield management, autonomous decision-making, and unmanned combat systems (Johnson, 2021). In addition, AI-powered Project Maven, an initiative launched by the Pentagon, aimed to improve autonomous surveillance and reconnaissance with AI-assisted drones to collect intelligence, locate threats, and execute precision strikes (Sullivan, 2021). These strategies clearly mirror an offensive realist perspective, as the U.S. uses AI to preserve military primacy and function as a bulwark against the rising threats that emerge (Wu, 2020).

China, in response to U.S. technological dominance, has implemented an aggressive state-led AI strategy that aims to surpass the United States and establish China as the global leader in artificial intelligence by 2030 (Kretzmann, 2024). The 2017 New Generation Artificial Intelligence Development Plan (AIDP) serves as the backbone of China's AI ambitions, outlining a three-phase, which explained in table 2, roadmap for achieving technological self-sufficiency and military AI dominance

**Table 2: China's Three-Phase AI Development Plan**

| Phase | Time | Key Developments |
|---|---|---|
| **Phase 1: Laying the Foundation for AI Development** | 2017-2020 | - Built an advanced AI research ecosystem, investing in high-tech infrastructure, AI talent development, and state-backed AI enterprises.<br>- Established AI innovation hubs, including the China Academy of Information and Communications Technology (CAICT) and Baidu's AI Research Institute, fostering advancements in machine learning, neural networks, and AI-driven robotics. |

| Phase | Time | Key Developments |
|---|---|---|
| **Phase 2: Accelerating AI Integration into Key Sectors** | 2021-2025 | - The People's Liberation Army (PLA) incorporated AI into its military modernization strategy, focusing on autonomous drones, unmanned ground combat systems, and AI-assisted decision-making platforms.<br>- Expanded AI-driven cyber warfare capabilities, developing intelligent surveillance systems, AI-driven hacking programs, and automated misinformation campaigns.<br>- The "Made in China 2025" initiative strengthened AI applications in smart manufacturing, robotics, and high-tech warfare. |
| **Phase 3: Achieving Global AI Dominance** | 2026-2030 | - Aims to lead the world in AI-powered military applications, surpassing the U.S. in AI-driven defense, cyber operations, and autonomous warfare.<br>- The PLA continues to develop AI-driven hypersonic missile guidance systems, autonomous underwater combat vehicles, and AI-assisted battle management systems.<br>- AI governance policies focus on maintaining state control over AI advancements, ensuring that military applications remain integrated with government directives. |

**Source:** Stokes (2024); Zhao (2024); Horowitz et al. (2022); Wu (2020); Truong (2023); Sullivan (2021); Miskelley (2024); Johnson (2021)

The U.S.-China AI competition exacerbates the security dilemma because each side sees the other's advances as a direct threat and this has fueled the dynamics of an escalating AI arms race (Wu, 2020). The emergence of AI-driven autonomous weapons systems and cyber warfare tools results in disallowing for mutual trust, laying the groundwork for retaliatory military responses and strategic miscalculations (Spencer, 2020). International governance has yet to address military concerns surrounding artificial intelligence (AI) that simultaneously increases tensions between the two nations, with both the U.S. and China developing AI-integrated deterrence mechanisms with no major regulatory check in place (Sullivan, 2021).

Realist logic provides even more reason to believe that what is strategic, militarily, is dependable: it is power that matters in AI and power that will set global military stability. Even if AI allows the U.S. to maintain military dominance, it will still reshape global security frameworks and function as a deterrent to adversaries (Prochaska, 2020). But if China closes the technological gap, it may challenge Us influence, especially in regional conflicts like Taiwan and the South China Sea (Kretzmann, 2024). The unregulated proliferation of AI warfare capabilities within a geopolitical context heightens the risk of instability, cyber conflicts, and military escalations driven by AI without an AI arms control agreement (Miskelley, 2024).

**Analysis of Competition Using Technological Innovation Theory:**

The theory of technological innovation sheds important light on the U.S.-China AI competition, portraying technology as a key driver of military superiority and strategic dominance. According to this theory, countries that are first in developing modern technologies tend to gain disproportionate advantages in military strength, economic power, and global political stability (Sullivan, 2021). The increasing development of AI-driven military capabilities, cyber warfare capabilities, and autonomous weapons systems by both the United States and China allude to how AI has become a new strategic asset used to establish and extend both countries military influence globally (Horowitz et al., 2022).

Beyond civilian technologies, the United States traditionally holds a significant technological lead in military applications, due to its innovation ecosystem driven by private sector investment. By engineering such partnerships, investing in advanced technology for defense purposes, and vanguard AI implementation in military capacities (Johnson, 2021, U.S Related245), the U.S. contemplates technological innovation theory in maintaining its competitive advantage

over China. The Department of Defense AI Strategy (2018) established the blueprint to – over time - infuse AI-driven autonomy, decision-support systems, and predictive analytics into defense systems (Stokes, 2024). Initiatives like Project Maven, which employs artificial intelligence to scrutinize surveillance footage and enhance targeting precision, and the Joint Artificial Intelligence Center (JAIC), which consolidates the development of AI technologies for military utilization, embody the U.S. approach to harnessing innovation for military dominance (Wu, 2020).

The Pentagon's Third Offset Strategy, for example, is a way the United States folds technological innovation into its deterrence of emerging threats. It focuses on AI-powered warfighting capabilities, human-machine teaming, and next-gen autonomous weapons (Matheswaran, 2021). Furthermore, AI also brings innovative features such as the transformation of cyber warfare recently highlighted by the National Security Commission on Artificial Intelligence (NSCAI), stressing the AI's role in cyber defense, digital espionage, and intelligence gathering (Zhao, 2024). With the use of AI embedded into military systems such as autonomous, unmanned drones, cyber-defense operations, and next-gen missile guidance systems, the United States is laying the groundwork to continue military technological and defense industry leadership (Truong, 2023).

**China: A State-Driven Innovation Model for Global AI Leadership**

Unlike the U.S. private-sector driven innovation model, China has pursued a centralized, state-led approach to technology in AI and military applications (Kretzmann, 2024). China's ambitions to become the world leader in AI by 2030, especially in the fields of autonomous warfare, surveillance technology, and cyber warfare capabilities, presented in Made in China 2025 but these ambitions detailed in New Generation AI Development Plan (2017), Rovio, n.d. While the decentralized nature of innovation in the U.S. means that AI firms operate without necessarily following the leads of military or governmental agencies, the opposite is true in China where state-supported AI firms (Baidu, Tencent, and Huawei, for example) are directly following military and governmental directives and, as a result, are able to deploy new AI techno on the defense front (Sullivan, 2021).

An illustrative case of China's AI-led military evolution is the People's Liberation Army (PLA) Intelligent Warfare Strategy, which seeks to supplant traditional military set-ups with AI-centric automated warfare (Horowitz et al., 2022). These capabilities include AI-fueled hypersonic missile guidance, cyber warfare and battlefield decision-making (Miskelley, 2024) Furthermore, Chinese AI-optimized surveillance systems such as the Social Credit System and facial recognition technologies indicate the military competition capability of the AI development as well as the inner security strategy for ensuring national security (Spencer, 2020).

The military-civil fusion policy by China's government further speeds up the integration of AI in commercial and defense sectors, enabling military-grade AI research to leverage civilian AI technology and innovation (Prochaska, 2020). Through this strategy, China gains a competitive advantage over adversaries in AI-driven cyber, autonomous drones, and AI-optimized naval warfare (Johnson, 2021). Through a focus on technological self-reliance and military innovation powered by artificial intelligence (AI), China seeks to offset American superiority and become the world's foremost AI military power (Sullivan, 2021). Table 3 describes the Competition Using Technological Innovation Theory.

**Table 3: The U.S.-China Competition in AI from a Technological Innovation Theory Perspective**

| Dimension | United States | China |
|---|---|---|
| **AI Development Goals** | Maintain global leadership through continuous innovation | Bridge the technological gap and establish global dominance |
| **Key Technologies** | UAVs, AI-driven smart weapons, autonomous defense systems | Big data analytics, autonomous weapons, intelligent command-and-control systems |
| **Strategic Framework** | Private-sector-driven innovation aligned with national defense goals | State-led initiatives such as "Made in China 2025" and "New Generation AI Development Plan" |
| **Global Impact** | Transform traditional warfare and maintain strategic dominance | Reshape regional and global power balances |

| Dimension | United States | China |
|---|---|---|
| **Long-term Implications** | Establish a sustainable competitive advantage in military capabilities | Use AI as a tool to challenge U.S. dominance and redefine global norms |

**Source**: Horowitz et al. (2022); Sullivan (2021); Stokes (2024); Johnson (2021); Zhao (2024); Wu (2020); Truong (2023); Kretzmann (2024); Matheswaran (2021); Prochaska (2020); Spencer (2020); Miskelley (2024)

**Integrating Realism and Technological Innovation in Competition Analysis**

Realism and the theory of technological innovation complement each other to create a framework for analysis of the U.S.-China competition in AI. Like realism, which accounts for state actors in geopolitical and military power conflicts, and technological innovation theory, which points out how technological advancements are shaping their military capabilities and policy (Wu, 2020). However, the combination of the two theories also provides a multi-dimensional analysis of AI-driven military competition and gives a demonstration on how technological advantage directly correlate with national defense strategies, deterrence, and global power dynamics (Horowitz et al., 2022).

From a realist lens, the struggles between the United States and China are inherently about holding onto and changing the distribution of power within an anarchic international order (Sullivan, 2021). The approach of the United States is to maintain military superiority, enabling speed, system integration, autonomy and enhanced situational awareness in battle through AI technology (Stokes, 2024). Meanwhile, China is pursuing a dual but opposing objective of challenging the U.S. supremacy and pursuing, through the military-civil fusion strategy integrating AI into the PLA, modernization of the People's Liberation Army (PLA) and establishment as a technological superpower (Zhao, 2024). This is consistent with realist assumptions about the interest of great powers in military dominance (Matheswaran, 2021).

Realism elucidates the competitive drivers that push states into an AI arms race, while technological innovation demonstrates the manner in which AI alteration military doctrines, deterrence, and warfare in the future (Kretzmann, 2024) Private-sector collaboration drives AI innovation in the United States, leveraging corporate research, military partnerships, and defense AI strategies in the private sector (Johnson, 2021). Rather, China is following a centralized, state-driven model for AI where government-controlled AI firms, national policies, and military-civil fusion used to rapidly accelerate military modernization (Truong, 2023). AI is not an enhancement technology anymore but a monument of national security, economic power, and geopolitical influence (hamood,2023).

Realism in combination with theories of technological innovation demonstrates that technology-development is cyclical and that geopolitical ambitions enhanced by technological advances. According to Prochaska (2020), both the U.S. and China sees AI as a strategic asset and spend exorbitant amounts to develop AI-enabled weapons systems, hypersonic missile guidance, and cyber-defense networks with the aim to achieve a decisive edge in future conflicts. The absence of international governance on AI militarization also evokes security dilemmas whereby the technological growth of one side leads the other to undertake an arms race-like reaction and engage in AI militarization (Miskelley, 2024). There should be no surprise at this self-perpetuating AI arms race, it follows the realist expectation of constant power struggles but exemplifies how technological innovation is both accelerating and reshaping these conflicts (Hamood et al, 2025).

**Table 4: Integrated Analysis of Realism and Technological Innovation in the U.S.-China AI Competition**

| Dimension | Realism | Technological Innovation |
|---|---|---|
| **Focus** | Military power and strategic dominance | Redefining power through advanced technology |
| **United States** | Maintain traditional military superiority through deterrence | Use AI for precision operations, cost efficiency, and innovation |
| **China** | Challenge U.S. hegemony and achieve global prominence | Leverage AI for strategic gains and regional dominance |
| **Nature of Power** | Based on conventional forces and deterrence mechanisms | Transformational, reliant on innovation and strategic applications |

| Dimension | Realism | Technological Innovation |
|---|---|---|
| **Impact on Deterrence** | Strengthening deterrence through enhanced capabilities | Redefining deterrence through technology-driven strategies |
| **Global Implications** | Aims to preserve existing international order | Disrupts and reshapes international norms and balances |

Source: Horowitz et al. (2022); Sullivan (2021); Stokes (2024); Johnson (2021); Zhao (2024); Wu (2020); Truong (2023); Kretzmann (2024); Matheswaran (2021); Prochaska (2020); Spencer (2020); Miskelley (2024)

**Discussion**

From the point of view of technological innovation theory, U.S.-China competition shows the potential for technology to reshape the nature of power and military influence. Following the lead of major tech companies like Google, Microsoft, and OpenAI, the United States pours resources into developing military AI technologies. Such as intelligent command-and-control systems that will improve the accuracy, efficiency, and performance of military operations. Likewise, the employment of AI in its unmanned reconnaissance as well as combat systems has provided the U.S. with a tactical edge while reducing both human and operational costs (Truong, 2023). In contrast, China pursued a strategic military buildup emphasizing military advantages derived from technological innovation. Strategies such as "Made in China 2025" and the "New Generation AI Development Plan" have seen Chinese investments in smart weapons, unmanned aerial vehicles (UAVs) and data analytics systems applied for military purposes (Sullivan, 2021). These technologies show China can harness technology very well to boost its military and geopolitical position, which is central to one of its designed plans to be on par with, or even overtake, the United States in a variety of fields military and technological.

This analysis underscores the vital importance of technological innovation as the driver of the competition. While the US tries to retain its technological and military superiority through relentless advances, China uses deliberate, state-based strategies to bridge the technological divide and augment its global prominence. China's strides in autonomous systems and artificial intelligence-driven surveillance technologies, to name one example, reflect its ambitions to leverage innovation to transform regional and global distributions of power (Kretzmann ,2024).

As such, this section of this analysis relates directly to the first part of the research objective, highlighting the way in which innovation shapes the technology competition. By studying how these innovations are influencing both countries' military-technical evolution and the emergence of advanced military strategies, it also serves the second goal. It also illustrates not just how innovation improves military effectiveness but also acts as a strategic lever to create enduring geopolitical benefits.

Overall, the introduction of modern technologies does not merely allow states to conduct their military operations with greater effectiveness, but instead technological innovation plays an integral role in the transformation of contemporary warfare and the international system. They are using AI technologies to gain strategic advantages — a change from traditional forms of power to a more functionalist and technology-dominated kind of power in the 21st century. This competition adds to the already pressing need for an effective international mechanism for the regulation of AI threats to ensure global order.

Realism, in concert with the theory of technological innovation, provides a compelling analytical lens through which we can analyze the U.S.-China competition and zero in on the key aspects driving artificial intelligence (AI). Focusing on the strategic goals of states, such as military deterrence, or seeking domination is the core of realism, where the theory of technological innovation shows that technology can even reconfigure the meaning of power. For example, the balance of military power has shifted from the size of armies or nuclear stockpiles to technologies that command the future like AI systems for military and intelligent defense systems.

This integration makes clear that while AI is a general-purpose technology that can help enable military dominance, it is less of a tool than a fundamental force that reshapes the international order. Innovative domains cyber, space and integration of advanced technologies AI change deterrence by changing reliance from classic forces to strategies leveraging

precision, automation, and cost problems. For instance, both the U.S. and China are pouring a ton into AI projects with military applications to gain strategic cleavages in potential wars.

Yet this competition presents serious challenges to global stability. The lack of an international regulatory framework for the evolution and militarization of AI heightens the risk of a spiral in tensions and a potential technological arms race. The speed of innovation, paired with the black box nature of these powerful technologies, fuels mistrust between the two nations, which has a feedback effect that destabilizes an already unstable global system.

This analysis thus addresses the third research objective of offering a forward-looking perspective on the nexus between technological competition and global security and stability. With AI integration more fundamentally embedded in military strategies, it vastly redefines global power configurations and provides new dynamics in deterrence and exacerbating international relations. Whereas traditional deterrence strategies rested on nuclear capabilities and military presence, AI-driven technologies — autonomous weapons, cyber warfare tools, intelligent surveillance systems — raise novel uncertainties. AI allows for rapid decision-making, which in conflict reduces the reaction time, therefore creating greater risk of a miscalculation leading to an escalation and then unintended confrontations. Autonomous systems without human oversight could disrupt existing security arrangements and could exacerbate already complex crisis management between global powers.

**Conclusion**

U.S.-China competition in artificial intelligence (AI) is a revolutionary shift in global security dynamics with implications for military strategy, international stability, and geopolitical balance. This study explored the strategic competition between the two nations, their respective approaches to AI development, military applications, and the implications of their competition. These are no longer simply ancillary tools in military operations, but rather defining elements of national security policies, military deterrence, here and inequalities of global power. This raises new strategic concerns as militaries are adopting AI-driven weapons platforms and decision support systems. This raises stark questions about the specters of an AI arms race, of no international governance, of sending AI-enhanced armies to do war, with no controllable path to avoid nation-against-nation AI warfare.

Returning to the research questions and hypotheses, this study has highlighted that AI development in the U.S. and China varies in both form and content. The United States employs a private-sector-led innovation model, tapping technology partnerships with companies like Google, Microsoft, and OpenAI, while China has a state-driven strategy, directing government-led investments with programs such as the New Generation AI Development Plan. This divergence, in which the pace, scope, and moral fabric of military AI-related advances differ based on the lead of each nation, will have significant and valuable ramifications for how both countries enshrine and internalize AI within their strategic doctrine. Data until October 2023 supports the hypothesis that whoever leads the AI arms race will become the top percentile of military power. Moreover, the study reinforces that lack of international regulatory frameworks creates an environment for an arms race of AI, with each nation pursuing unpredictably ramped up AI capabilities to outplay progress of the other in a way that sacks global security overall.

Considering these findings, the study highlights the need for international cooperation and governance mechanisms to regulate military AI applications and to manage risks. In contrast to nuclear arms control agreements, there is currently no comprehensive international oversight of AI-based warfare, which creates the urgent need for global institutions to establish legal, ethical, and strategic frameworks to ensure AI developed and deployed responsibly. The study advocates U.S.-China diplomacy, confidence-building steps, and multilateral conversations in the context of the United Nations, NATO, and other global security bodies. These efforts must establish guidelines for the weaponization of AI systems, the use of autonomous decision-making in military matters, and protections in the cyber domain, to foster transparency, ethical AI deployment, and strategic stability.

The study lists recommendations as follows based on the previous study analysis.

1. **Establish International Regulatory Frameworks and Enhance Cooperation:** a number of joint efforts by the global community, including the US and China, which should be working to draft and enforce an international code of regulations to ensure that the development and use of world-scale military AI systems are bound by an internationally agreed-upon body of law. The United Nations and other organizations can play a significant role in facilitating these efforts to prevent escalation and to ensure the responsible use of AI technologies.

2. **Encouraging Responsibility and Establishing Trust**: In particular, strategic dialogues among major powers, especially the U.S. and China, must encouraged to build trust through transparency of AI programs. Such dialogues will help to counter mistrust, curb the danger of miscalculation, and avoid escalation in the AI arms race.

3. **Be focused on peace and ethics of AI applications**: Such initiatives should be metrics-driven, and there should be commensurate global investments as well towards the development of peaceful applications of AI, which can rejuvenate advances in domains such as health, education, and disaster management, which can showcase AI as a force for good. At the same time, ethical standards would help direct potential AI innovation away from weapons development and towards enhancing human safety, stability, and beneficial international relations.

The competition in AI between the United States and China needs to address by all involved parties in a way that promotes global security and stability. To avoid a future characterized by escalating geopolitical tensions, technological innovation must become a facilitator for cooperation and sustainable development. This will require a coherent vision and thoughtful policies that balance innovation with international responsibility. This is the only way for the world to benefit from the power of AI for the benefit of humanity.

**REFERENCES**

Horowitz, M. C., Allen, G. C., Kania, E. B., & Scharre, P. (2022). *Strategic competition in an era of artificial intelligence*. Center for a New American Security.

Sullivan, R. (2021). *The US, China, and artificial intelligence competition factors*. China Aerospace Studies Institute.

Spencer, M. (2020). *Artificial Intelligence, Military Integration, and US-China Security Dilemma. Doctoral dissertation*, University of South Florida.

Mori, S. (2019). US technological competition with China: The military, industrial and digital network dimensions. *Asia-Pacific Review*, *26*(1), 77-120.

Prochaska, P. (2020). US-China rivalry for strategic domination in artificial intelligence and the new AI geopolitics. *The Bellona Quarterly*, *701*(2), 5-25.

Chang, B. A. (2021). *Artificial Intelligence and the US-China Balance of Power. Doctoral dissertation*, Massachusetts Institute of Technology.

Maqsood, A., Khan, A., & Siddiqi, M. U. (2023). US-China Competition in Artificial Intelligence: Implications on Global Governance. *Journal of Asian Development Studies*, *12*(4), 481-493.

Özdemir, G. S. (2024). *Artificial Intelligence 'Arms Dynamics': The Case of The US And China Rivalry*. SET Vafa Intifada Islamis.

Sandel's, C. M. B. (2019). *The beginning of Artificial Intelligence arms race: A China-USA security dilemma case study. Master's thesis*, Universidad de Evora (Portugal).

Miskelley, A. (2024). *INNOVATION AND INTERNATIONAL INFLUENCE: CHINA'S ARTIFICIAL INTELLIGENCE PURSUIT IN A GEOPOLITICAL CONTEXT. Doctoral dissertation*, American University Washington, DC.

Johnson, J. (2021). The end of military-techno Pax Americana? Washington's strategic responses to Chinese AI-enabled military

technology. *The Pacific Review*, *34*(3), 351-378.

Johnson, J. (2021). *Artificial intelligence and the future of warfare: The USA, China, and strategic stability*. Manchester University Press.

Wang, Y., & Chen, D. (2018). Rising Sino-US competition in artificial intelligence. *China Quarterly of International Strategic Studies*, *4*(02), 241-258.

Кочеров, О. С. (2024). Prospects for China's Use of Artificial Intelligence in the Context of the US-China Geopolitical Rivalry. *Мировая политика*, (4), 12-29.

Liu, S., & Li, Z. (2024). Artificial Intelligence in US Military Strategy: Trends and Implications. *China Int'l Stud.*, *106*, 125.

Waseem, R., & Malik, T. (2024). US-China Strategic Competition: Conventional Deterrence & the Changing Face of Modern Warfare. *The Journal of Humanities & Social Sciences*, *32*(2), 161-183.

Hunter, L. Y., Albert, C. D., Henningan, C., & Rutland, J. (2023). The military application of artificial intelligence technology in the United States, China, and Russia and the implications for global security. *Defense & Security Analysis*, *39*(2), 207-232.

A. S. Hamood, "Cross-cultural Miscommunication: Effects on ESOL learners and Sequences for ESOL Teachers," J. Iraqia Univ., vol. 62, no. 1, pp. 630-633, 2023. [Online]. Available: https://www.iasj.net/iasj/issue/16589.

Al-Hasnawi, A. H. M. (2021). America-China Technology Competition and Its Geopolitical Dimensions. *Multicultural Education*, *7*(11).

Truong, J. (2023). How can AI shift the balance of power between China and the US in the military context?

Zhao, X. (2024). Technological hedging and differentiated responses of Southeast Asian countries to US–China technological competition: a case study on artificial intelligence (AI). *The Pacific Review*, 1-32.

ROKVIĆ, V. BACK TO THE FUTURE: THE US-CHINA AI ARMS RACE?

Stokes, J. (2024). Military artificial intelligence, the People's Liberation Army, and US-China strategic competition. *Center for a New American Security. https://www. cnas. org/publications/congressional-testimony/military-artificial-intelligence-the-peoples-liberation-army-and-us-china-strategic-competition*.

Hamood, A.S., Al Ghareeb, S.L.H., Zaid, B.H. (2025). Comparison Between the Performance of Human Translators and AI-Supported Applications. In: Abdelgawad, A., Jamil, A., Hameed, A.A. (eds) Intelligent Systems, Blockchain, and Communication Technologies. ISBCom 2024. Lecture Notes in Networks and Systems, vol 1268. Springer, Cham. https://doi.org/10.1007/978-3-031-82377-0_9

Wu, X. (2020). Technology, power, and uncontrolled great power strategic competition between China and the United States. *China International Strategy Review*, *2*(1), 99-119.

Retzmann, N. (2024). 'Winning the Technology Competition': Narratives, Power Comparisons, and the US–China AI Race. In *Comparisons in Global Security Politics* (pp. 237-256). Bristol University Press.

Matheswaran, M. (2021). US-China Strategic Competition in the Asia-Pacific. *Trends Research & Advisory*.