

AI-Powered Military to Protect Uncle Sam and Dragon

I. Introduction

AI refers to a broad range of disciplines, technologies, and methods that simulate human intelligence and can show intelligent behavior similar to humans. It is employed in several applications, including military, security, aerospace and aviation, healthcare, agriculture, transportation, software development, and robotics. AI's use in the military is imagined to be in autonomous military vehicles. With the emergence of new technologies every waking second, countries grapple with security concerns, diplomacy, and conflicts; sometimes, these conflicts are virtual and faceless.

One such concern and disruptive technology is artificial intelligence, a product of the 20th century that has only come to be fully utilized in the 2000s. The concept of “integrated operating”¹ provides a new approach to utilizing armed forces in an era of prudent competition. The Ministry of Defense in the UK launched an integrated operating concept. It claimed that an “era of persistent competition” has ushered in the world alongside a changing character of warfare.

II. Emergence of AI in the International sphere

“Artificial Intelligence” emerged with John McCarthy using this term for the first time in a workshop at Dartmouth in 1955 and gained traction thereafter. The 1970s showed improvements, such as the first anthropomorphic robot being built in Japan and the first example of an autonomous vehicle being built by an engineering grad student. However, it was also a time of struggle for AI research, as the U.S. government showed little interest in continuing to fund AI research.² Artificial intelligence, or AI, is a set of technologies that enable computers to perform a variety of advanced functions, including the ability to see, understand, and translate spoken and written language, analyze data, make recommendations, and more. It is the child of the fifth generation of computers and has taken over most of the world in terms of economy, military, technology, etc. AI's role in diplomacy and building relationships between nations and between nations and their citizens has been quite instrumental.

A groundbreaking milestone in military history is a precursor to AI as we know it today: Mathematician Alan Turing broke the German Enigma encryption codes in World War II. He then went on to develop the Turing Test, which is still widely used to determine if a computer can match human intelligence.

The U.S. military also has a long history of experimenting with and using AI. In 1991, an AI program called the Dynamic Analysis and Replanning Tool (DART) was used to schedule the transportation of supplies and personnel and to solve other logistical problems, saving millions of dollars.

The accessibility and efficiency of “generative AI” have been raising concerns about the security of nation-states. Generative AI interacts with various formats like text, image, video, file, etc., to create inputs; this is possible due to the advent of multimodal AI. This makes our interaction with AI even more realistic and creates our dependence on its abilities.

¹ Integrated operating- is a way of using AI across various domains in a coordinated and interconnected manner.

² [History of AI](#)

III. **China and the USA are using AI to protect their sovereignty.**

The two superpowers of the multipolar world are fighting neck and neck to succeed in this technology race. The USA has been making use of AI, even before it gained popularity. But one of the biggest developments has been the continued progress in natural language processing (NLP), in which humans can use typical grammar and syntax to communicate with machines rather than having to input code. This has drastically changed the way humans interact with AI. Also, the use of applications like ChatGPT enables users to receive and create answers in the form of a conversation with the application. The military carefully analyzes the implications of such technological advances to foresee and prevent risks and destruction.

The use of AI in military operations is manifold.

- A. Warfare systems - or weapons, sensors, aviation support, etc.—can make use of AI to function efficiently, abating the potentiality of human errors and providing humans with an opportunity to make better use of their time and energy.
- B. Drone Swarms - Unmanned systems, often known as drones, minimize the potential risk to military personnel. Swarm intelligence is the collective behavior that is observed in decentralized and self-organized systems.
- C. Cybersecurity - Advances in technology can also pose the risk of cyber theft and attacks. Cyberattacks can lead to the risk of damaging sensitive information.

The USA spends more than 16 other countries on military and defense³, the largest globally, followed by China. It spends a large amount on the development of new weapons and technology. These countries gave primacy to territorial sovereignty and integrity.

The Pentagon is figuring out ways to harness artificial intelligence (AI) for advantages as far-flung as battlespace autonomy, intelligence analysis, record tracking, predictive maintenance, and military medicine. AI is a key growth investment area for DoD, with nearly \$1 billion allocated in the 2020 budget. The Defense Department's Joint Artificial Intelligence Center (JAIC) will see its budget double to over \$208 million, with significant increases likely in 2021 and beyond. The military is currently seeking to integrate AI into weapon systems development, augment human operators with AI-driven robotic maneuvers on the battlefield, and enhance the precision of military fires.⁴

AI has made its place in the international arena with its immense power of analyzing vast amounts of data sets in real time. While AI cannot replace the nuanced judgment of experienced diplomats, its ability to process large data sets, identify patterns, and suggest strategic insights makes it an indispensable tool for improving data-driven diplomatic decision-making. As a result, diplomatic institutions should explore the integration of AI and advanced data analysis to refine diplomatic processes and outcomes.

IV. **Arms Race to Leverage AI's Capacity**

Rising capabilities of artificial intelligence have prompted the USA and China to brace themselves for an AI arms race, which is nothing but exploiting AI's power to strengthen their military capacity. This will only heighten the deepening tensions between China and the USA, and this will put the two superpowers head-to-head.

³ [USA spending on military](#)

⁴ [DoD, Growth in Artificial Intelligence](#)

1. USA's Military Strategy - The Department of Defense (DOD) has structured its AI initiatives around maintaining 'decision superiority,' which leverages AI to provide commanders with data-driven insights in real-time combat situations. Similarly, its 2022 initiative, the Joint All-Domain Command and Control (JADC2) system, has set its aim to improve battlefield awareness by deploying AI to consolidate data across land, sea, air, space, and cyber domains, alongside partners. Ethical use of AI in the military is what differentiates the USA's strategy from China's.
2. China's military strategy is based on modernizing, or 'intelligentizing,' the People's Liberation Army (PLA) by integrating technology into combat, command, and multi-domain operations. The Chinese government has merged both civilian and military AI development under a 'Military-Civil Fusion Development' doctrine. This strategic alignment means that the government can mandate that science and technology innovations be simultaneously applied to the military sector. China has also placed greater emphasis on developing unmanned, autonomous systems. Since 2019, it has developed a series of uncrewed underwater vehicles (UUVs), a type of underwater drone capable of conducting its intelligence, surveillance, and reconnaissance (ISR) missions. UUVs also have the potential to carry out anti-submarine warfare, which could be employed in strategic regions such as the South China Sea and the Taiwan Strait. China has also been successful in developing swarm technology, notably swarming drones.⁵

V. Potential Risks

1. AI has established itself internationally through various means, including military, real-time user interaction, and generative AI, but it comes with its repercussions and risks. Jimena Sofia Viveros Alvarez, a member of the UNSG High-Level Advisory Body on AI, advocates against the reliance on technologies for target identification, selection, and engagement, as these will only exacerbate civilian suffering. AI's unpredictability challenges international humanitarian law, and the black box problem of AI makes it impossible for humans to trace the decision-making process of these systems.
2. The impact of AI is transforming industries worldwide. The worldwide expenditure on AI reached \$118 billion in 2022 and is expected to exceed \$300 billion by 2026. India needs to shift gears concerning its geopolitical relations and use of AI in the military. With the rising use of AI in the military and security sector, there arises a risk to the sovereignty of nations.
3. A need for regulation and laws: there has been an identified need to regulate the use of AI by various countries like the USA, China, and the European Union in their specific ways to counter specific predicaments. Broadly, India supports a "pro-innovation" approach to AI regulation. It wants to unlock the full potential of AI while taking into account the anticipated risks. This is reflected in the G20 Ministerial Declaration made during India's presidency, as well as a statement in Parliament in April 2023 that "[the Indian government] is not considering bringing a law or regulating the growth of AI in the country."⁶

⁵[China's military strategy](#)

⁶[Use of AI in India](#)

VI. Conclusion

Earlier, the closest we could get to AI was robots, but today, it has crossed the bounds of human-like structures to equip the intellect of a human. Using AI in the military is a massive success and a risk at hand simultaneously. Deficient training data will often lead to biases, brittleness, hallucinations, misalignments, privacy risks, and loss of control, which, paired with the technology's unpredictability, pose sundry problems for their use in target identification, selection, and engagement.

References

- AI in Warfare and Military Applications* | TE Connectivity. (n.d.). TE Connectivity. Retrieved May 14, 2025, from <https://www.te.com/en/industries/defense-military/insights/ai-in-warfare-and-military-applications.html>
- Artificial Intelligence* | U.S. (n.d.). GAO. Retrieved April 12, 2025, from <https://www.gao.gov/artificial-intelligence>
- Competing AI Strategies in the US-China Military Race*. (2024, November 15). Bloomsbury Intelligence and Security Institute. <https://bisi.org.uk/reports/competing-ai-strategies-in-the-us-china-military-race>
- Currie, C., Epstein, I., Malenfant, D., & Wardrop, C. (2022, May 22). *The Evolution of War: How AI Has Changed Military Weaponry and Technology*. Montreal AI Ethics Institute. Retrieved May 14, 2025, from <https://montrealaiethics.ai/the-evolution-of-war-how-ai-has-changed-military-weaponry-and-technology/>
- Darwish, A. (2024, November 15). *Competing AI Strategies in the US-China Military Race*. Bloomsbury Intelligence and Security Institute. <https://bisi.org.uk/reports/competing-ai-strategies-in-the-us-china-military-race>
- Generative AI: The technology of the year for 2022*. (2022, December 20). Big Think. <https://bigthink.com/the-present/generative-ai-technology-of-year-2022/>
- Jeevanandam, N. (2024, January 15). *Impact of AI in the Indian Army*. IndiaAI. Retrieved May 9, 2025, from <https://indiaai.gov.in/article/impact-of-ai-in-the-indian-army>
- Military Drone Swarm Intelligence Explained*. (2024, April 1). Sentient Digital, Inc. Retrieved April 23, 2025, from <https://sdi.ai/blog/military-drone-swarm-intelligence-explained/>

Mills, C. (2023, November 13). *Emerging and disruptive defense technologies—House of Commons Library*. The House of Commons Library. Retrieved April 18, 2025, from

<https://commonslibrary.parliament.uk/research-briefings/cbp-9184/>

Mohanty, A. (2024, November 21). *India's Advance on AI Regulation*. Carnegie Endowment for International Peace. Retrieved May 14, 2025, from

<https://carnegieendowment.org/research/2024/11/indias-advance-on-ai-regulation?lang=en¢er=india>

The risks and inefficacies of AI systems in military targeting support. (2024, September 4). Blogs | International Committee of the Red Cross. Retrieved May 14, 2025, from

<https://blogs.icrc.org/law-and-policy/2024/09/04/the-risks-and-inefficacies-of-ai-systems-in-military-targetingsupport/>

What is the history of artificial intelligence (AI)? (n.d.). Tableau. Retrieved April 18, 2025, from

<https://www.tableau.com/data-insights/ai/history>