

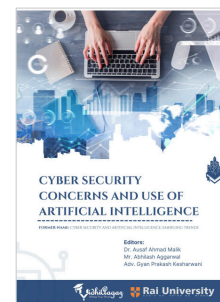
CHAPTER 31

The Geopolitical Chessboard: AI as the New Weapon in the Arms Race

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THE GEOPOLITICAL CHESSBOARD: AI AS THE NEW WEAPON IN THE ARMS RACE

Shrishti Shrivastava⁴⁵ and Diksha Tripathi⁴⁶

ABSTRACT

The rapid advancement in AI has ushered in a new arms race among major powers that has substantially changed global security dynamics. The research explores the integration of AI into military devices, which transforms modern warfare as well as strategy to nations' security. Given the rise of an AI supremacy race among the powerful countries, including the "United States, China, and Russia," what was once considered a destabilizing power transition is becoming too apparent not to be put under the spotlight. Military integration of AI into the system raises quite serious legal and ethical issues that need consideration right away. This research also addresses issues such as accountability, autonomous decision-making, as well as a lack of broad international collaboration. The entry of private tech corporations into the battle for military AI technology further complicates an already complex geopolitical situation. The authors of the study are greatly interested in international tandem for developing an ethical and legal configuration to ensure AI improves global security while ensuring human rights and ethical norms.

Keywords: Artificial Intelligence (AI), Global Security, Ethical Concerns, Legal Implication, International Cooperation

INTRODUCTION

The quick rise in the usage of artificial intelligence (AI) has resulted in an extraordinary shift in global security and defense strategies, adding new dimensions to military systems and technology. What was once science fiction has become a reality, with powerful nation such as the "United States, China, and Russia" at the forefront of this emerging arms race, competing not only for military superiority but also for leadership in usage of AI. This race has generated significant changes in global security dynamics, altering current war plans and state defense postures across the world.

The capacity of artificial intelligence to improve predictive analytics, process enormous amounts of data, and enable autonomous decision-making systems is changing the way wars are fought. From combat drone automation to the building of autonomous weapons systems, artificial intelligence has evolved from conventional support roles to the forefront of military operations.

The focus of the paper is majorly inclined towards examining the multifaceted implications of artificial intelligence in military applications, leading to a new race among the nation for developing AI powered weapon, along with developing of the need for rethinking of international legal frameworks in a way that prioritizes global security and human rights. Further the paper also deals with the position of the private tech companies involved in the growing development of AI. Therefore in an era where technical improvements outpace regulatory restrictions, understanding the geopolitical implications of AI as a new weapon in the arms race is critical.

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STATEMENT OF PROBLEM

Through military arms, AI has accidentally augmented the rivalry across the globe. All powers would love to have their contribution as the major destination for AI. With appropriate guidelines and regulations across international borders, these perils may expand without any limitations. Therefore, it is genuinely important to regulate AI sensibly in military arms without aggravating any war in the future and to maintain world peace.

RESEARCH METHODOLOGY

This research work is going to be conducted through qualitative research methodology, applying data sources which are secondary most of the time in the analysis on the effects of artificial intelligence over military conflicts and global security. Information is gathered from diverse official reports, scholarly journals, and other reliable online sources that have an effectiveness aimed at proving valid and reliable data. Themes key include technological advancements, ethical challenges, and international regulations.

THE GLOBAL AI ARMS RACE

With major international powers competing for dominance in military artificial intelligence technologies, the ongoing AI arms race represents a watershed moment in the evolution of modern warfare. Leading governments, “including the United States, China, Russia, and” others, have greatly increased financing for artificial intelligence research and military applications. Their activities not only challenge military doctrine, but also raise moral, political, and legal concerns. This section delves into each country's individual efforts, to show the vital role AI plays in international power relations.

- **United States: AI and Defense Innovation**

“As seen by initiatives like Project Maven and the establishment of the Joint Artificial Intelligence Center, the US Department of Defense (DoD) has been a pioneer in the use of AI technologies.” The 2020 Congressional Research Service study states that since 2017, the US has spent over \$18 billion on defense research pertaining to AI, with uses ranging from AI-assisted cyber defenses to autonomous drones.

As an illustration, consider DARPA's "AI Next" initiative, which aims to incorporate AI into intelligence, “surveillance, and reconnaissance”(ISR) missions as well as other military systems. Additionally, the US is “at the forefront of the invention” of “Lethal Autonomous” Weapon Systems (LAWS), that has raised questions regarding the morality of autonomous combat. Although this places the US at the forefront, it has also spurred a race for weapons in which other nations have responded in kind.

- **China's Pursuit of AI Supremacy**

China's "Next Generation Artificial Intelligence Development Plan" outlines “its intention to be the world leader” in AI by 2030. According to a Brookings Institution analysis from 2021, China's yearly AI defense spending is anticipated to be \$2.7 billion, ranking second only to the United States. China

has concentrated on creating AI systems that improve cyber capabilities, ISR technology, and self-driving combat vehicles.

China's employment of AI-powered surveillance systems, both domestically and globally, reveals the dual purpose of its AI capabilities. For example, the use of AI facial recognition systems in Xinjiang for mass surveillance has sparked global outrage, underscoring the ethical difficulties involved with China's AI uses in both military and civilian settings. Furthermore, China's engagement with private businesses such as Huawei and ZTE accelerates its technological growth, opening up new possibilities in cyber warfare and digital espionage.

- **Russia: Strategic deterrence and AI**

Russia's AI military spending, are increasingly focused upon strategic deterrence. Russian Ministry of Defense has identified artificial intelligence (AI) as crucial to future combat systems, including autonomous weaponry such as the Uran-9 unmanned combat vehicle and the Poseidon underwater drone. According to the International Institute for Strategic Studies (IISS), Russia's AI-related defense investments increased by 35% between 2019 and 2022, with a focus on cyber warfare and AI-powered missile systems.

POTENTIAL EFFECTS OF AI-DRIVEN POWER SHIFTS

The acceleration of AI development for military reasons raises various concerns. According to a 2023 RAND Corporation study, AI has the potential to disrupt global security by shortening decision-making time during wars, increasing the likelihood of blunders. A major issue is the deployment of "Lethal Autonomous Weapons (LAWS), which," without clear rules, might lead to unintended escalation.

AI's ability to provide asymmetrical benefits may lead smaller nations or non-state actors to employ disruptive AI technology, disrupting the existing power balance. For example, AI-enhanced cyber-attacks might cripple crucial infrastructure with unparalleled precision, escalating tensions between rival powers. The rapid use of these technologies may outstrip the development of international legal frameworks, making the global arms race even more perilous

The Position of Emerging Powers in the AI Arms Race

"While the United States, China, and Russia dominate the global" AI arms race, developing nations such as India, Israel, and South Korea are making tremendous progress in military AI integration.

India, through its Defense AI Council and initiatives such as "Make in India," focuses on intelligent drones, autonomous systems, and AI-enhanced cybersecurity, with the goal of strengthening local capabilities. Israel's incorporation of artificial intelligence (AI) into its Iron Dome missile defense system displays its leadership in AI-driven military technologies. South Korea is continuing to extend its defense modernization efforts, with a focus on AI-powered drones and autonomous vehicles, especially in light of regional concerns with North Korea. These countries are becoming major actors in the emerging AI military scene.

AI AND MODERN CONFLICT

Even though, AI involvement in contemporary military warfare has great benefits but it comes with its downsides as well. In its positive aspect, AI aids in the facilitation of accuracy in decision-making, predictive analytics, and autonomous systems to allow for powerful, efficient, and speedy military operations. It also reinforces intelligence gathering and cybersecurity capabilities for defense systems, thus making them adaptive. The rising application of AI in modern warfare, therefore, raises concerned issues, relating to ethical dilemmas in forms of autonomous weapons, cyber manipulation, and accountability in warfare.

The developments transform the traditional forces and doctrines in which nations have fought and governed. After all, AI's potential to process enormous amounts of real-time data, detect patterns, and make independent decisions fundamentally changes the character of war and thus has many opportunities and challenges for global security.

Speed of decision is the third critical change in warfare introduced by AI. The military traditionally had to consider both tactical and strategic decisions after careful review of massive, tedious intelligence data by human operatives. Military forces can now process enormous amounts of information almost instantly. AI, particularly machine learning, permits its systems to differentiate between analyzing drone footage, satellite images, and other types of surveillance data in real-time. This has allowed commanders to react to dangers much faster, so that tactical adjustments can take place much more rapidly and with more precision. For instance, as employed by “the U.S. Department of Defense Project Maven, AI’ can review imagery gathered by drones, thus making it possible for operators to spot potentially interesting objects, like cars or insurgents, much more quickly than human analysts would be able to. It is by reducing the decision cycle that AI allows militaries to maintain an operational edge over adversaries, for split-second decisions are what separate success and failure in these high-stakes combat environments.

Predictive military operations are improved by artificial intelligence with the help of predictive analytics. This essentially means that, on the basis of historical data combined with new intelligence, AI algorithms can predict the movements of the enemy and even predict the success rates of given strategies and predict the exact logistical requirement in military units. Those pieces of information allow commanding officers to plan their operation in better ways without taking unnecessary risks and efficient use of resources. AI systems that could analyze economic, social, and political trends could actually predict where disturbances are likely to happen, whereby governments can take preemptive action. This new ability to prevent and plan against threats in advance changes how militaries prepare for and engage in conflict, especially those occurring in a modern society.

Modern warfare is being revolutionized with AI as “the development of autonomous systems in” the form of drones and unmanned ground vehicles (UGVs) complements fully its use. Technologies such as these complete missions with reduced human involvement, hence increasing efficiency while allowing for diminished risks to personnel. For example, the Iron Dome system used in Israel accepts incoming missiles autonomously, showing full potential for AI in actual defense situations.

AI is changing the very nature of military thinking and strategies, becoming more decentralized with network-centric warfare in vogue. That would enable immediate sharing of real-time intelligence and quick response to any threat - an operation scenario where the soldier becomes an operator of systems rather than a warfare warrior. Projects like Project Maven in the US best portray the role played by AI in enhancing intelligence analysis and counterterrorism efforts.

However, ethical concerns are raised due to autonomous weapons that could independently take lethal decisions without human oversight. The prospect of cyber warfare, such as is seen in Russia using AI for cyber espionage and manipulation, creates a possibility of unintended escalations in conflicts. Likewise, China's application of AI for mass surveillance and autonomous weapon systems has underscored the geopolitics of the technology.

The article by Kristian Humble, titled **“War, Artificial Intelligence, and the Future of Conflict”**, focuses on growing alarms over AI-driven autonomous weapons systems, which independently of human direction make choices about attack selection. This paper suggests that despite leaps in technology, such weapons are remarkably unregulated internationally. The paper finds that the definitions of AWS are broad and varied, set out by organisations ranging from the UK to the US Defense Departments. Thus, the construction of a harmonised regime is a considerable challenge. Legal oversight becomes conspicuously absent in technological applications like this, raising very significant ethical questions about their use in war, especially when machines are involved in life and death decisions.

Against this backdrop, the article demands international legislations that would enforce human supervision of AWS. “The United Nations' Group of Governmental Experts on Developments in the Field of Information and Telecommunications in the Context of International Security had called for” more regulations, but the pace was very slow. In their 2023 report, they recommended more debates that will come up with relevant legislation, cautioning that the law should be dynamic enough to keep pace with the rapid development of AI in modern warfare systems.

THE POSITION OF PRIVATE TECH COMPANIES IN THE AI ARMS RACE

Private IT companies “have played a critical role in” the global AI arms race, encouraging research and development of advanced technologies that are rapidly being integrated into military systems. Companies like Google, Microsoft, Amazon, and Palantir have emerged as major contributors to” military AI” research and applications. For example, “Google's Project Maven, which aimed to use AI to analyze drone surveillance footage, highlighted the growing partnership between technology companies and the security sector. Similarly, Microsoft's investment in cloud computing services for military use, as well as Palantir's considerable involvement in data analytics for defense intelligence, demonstrate how private firms are determining the future of combat.

However, the involvement of private corporations in military AI development presents a number of ethical concerns. A major source of concern is the possible misuse of AI technologies, “particularly in the context of autonomous weapon systems” & AI-driven conflict. An issue surrounding Project Maven—which sparked protests from Google employees who were “concerned about the company's

involvement in military” applications—highlights the ethical tension between corporate principles and security imperatives. There is also the question of transparency; many of these AI systems are developed behind closed doors, with no public scrutiny of how they are utilized or the repercussions of their deployment, “particularly in areas such as surveillance and” autonomous decision-making. Another major concern arises because of the global nature of the tech companies as some of them make their product somewhere else and sell them all around the world. Because of this the issue of jurisdiction arises because their cross-border presence makes it difficult for any single government to supervise or control the development and application of AI technology in the military industry amplifying the risks associated with an unchecked AI arms race.

THE NECESSITY FOR A GLOBAL FRAMEWORK IN REGULATING MILITARY AI

In the absence of any international “framework that regulates the use of” artificial intelligence in military, a plausible threat to global security is thereby added. This is because the inconsistent approaches to regulation will result in an ad hoc, fragmented landscape that lacks coherence as more and more nations develop and deploy AI technologies for military purposes. Where there are differences in countries trying to develop cutting-edge military AI, the gap continues unabated without even a convincing binding framework that calls for more capability without safeguards or provisions on ethical use and accountability. But without regulation in this vacuum it enables developing countries to find areas of competitive advantages that override established humanitarian principles and risk stability in international relations.

One of the most fundamental risks in the absence of treaties on military AI is a lack of accountability when international law is broken. Indeed, if or when autonomous weapons systems decide to operate without the intervention of a human operator, liability for all such negligent or malevolent acts would practically be impossible to determine. This would run drastically in opposition to principles of established tenets of international humanitarian law: serious attacks do not formally cause harm may go unpunished. More importantly, the speed of rapid development of AI technologies could outstrip the development of integrated regulations, and therefore proliferate systems whose operational parameters are not fully clear or defined. Lethal autonomous weapons raise profoundly complex ethical questions, particularly regarding “the principle of distinction-the obligation to distinguish between” combatants and non-combatants-and may be breached should AI systems fail to conform to international legal standards governing warfare.

This further leads to an arms race because countries try to outdo each other in creating the powers of their militaries through AI inventions. Besides piling up risk factors for security within the global platform, such a race generates geopolitical tensions between countries since they are more apprehensive about the progress by other countries over such technology. States that perceive themselves as falling behind will spur on faster AI development in-house, and the mistake of entering a war will be all the more likely. Competition within a competitive environment can push countries to resort to behaviors that favor technological hegemony over risk avoidance through cooperation, and this will cripple the entire security landscape. Cooperation at the international level is necessary to solve these complex problems. An international universal framework regulating military AI has a high

potential of reducing risks associated with it through maybe common standards and guidelines representing some shared ethical considerations as well as humanitarian law principles. This way, the international community can better ensure that military AI systems make operational effectiveness even more beneficial by being accountable, transparent, and respecting international norms.

Cooperation mechanisms may help clear the mechanisms through which military AI might be used. That would help the countries build mutual trust and reduce the possibility of misunderstanding, thus a misunderstanding that escalates the conflict is reduced. Countries will be able to share best practices, agree on ethics guidelines, create standards in the use of AI through dialogues and shared initiatives. Such cooperation would make way for an enhancement of security, but at the same time, it would open the door to a shared understanding of implications arising with military AI technologies.

Furthermore, international cooperation can fill the gap between divergent national policies and approaches concerning military AI. Through developing continuous dialogue and collaboration platforms, the nations can collectively understand the implications of AI usage in war and ensure that the expansive step taken by AI does not compromise the fundamental humanitarian values.

TOWARDS AN INTERNATIONAL FRAMEWORK FOR AI IN WARFARE

The swift advancement of artificial intelligence (AI) in military applications emphasizes how urgently robust international frameworks to regulate their usage are needed. Even though AI offers remarkable improvements in combat capabilities, the absence of well-defined, legally binding standards presents serious risks to international security and stability. Some projects aimed at AI governance in warfare have already begun to emerge, but they are fragmented and insufficient to face the magnitude of the difficulties posed by autonomous weapons and AI-powered military systems.

One of the most notable attempts is “the United Nations Convention on Certain Conventional Weapons (CCW), which has been discussing Lethal Autonomous” Weapon Systems (LAWS) since 2014. Although the CCW intends to “prohibit the development and use of fully autonomous weapons,” no enforceable agreement has been reached, as nations claim that a ban would hinder research. This underscores a larger conflict between encouraging military innovation and upholding ethical standards in AI development. Similarly, the European Parliament has advocated for an international ban on autonomous weapons, although this has yet to be translated into practical global policies.

Dual-use technology regulation is a practical method to balancing innovation and responsible development, in which innovations produced for civilian reasons are subject to control when used in military circumstances. For example, AI advancements in healthcare or transportation should be vetted by an international commission before being applied to warfare. Finally, we can see that, while talks and concepts about soft law have helped the cause, enforceable international frameworks are sorely needed to control AI in military applications. To prevent global security instability, a balance must be struck between innovation and responsible development. The development of moral and legal safeguards must remain a major priority on the global agenda as AI technologies evolve.
