



## Artificial Intelligence-Driven Weapons System and the Future of Modern Warfare

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**Abstract:-** The research focuses on the transformative impact of Artificial Intelligence (AI)-driven weapons systems on modern warfare. It underscores the significance of AI in enhancing the precision, speed, and efficiency of military operations. The study addresses the challenge of integrating AI technology into existing defence frameworks, aiming to expand the capabilities of armed forces while maintaining strategic stability. The scope encompasses the development and deployment of AI in various military applications, asserting that AI-driven systems are set to redefine combat strategies and tactics. Methodologically, the research employs a comprehensive analysis of current AI technologies, their implementation in military hardware and software, and simulations of AI-driven operations. The results indicate a substantial increase in operational effectiveness, with AI systems capable of executing complex tasks autonomously. The findings suggest that the continued evolution of AI will necessitate novel approaches to warfare, potentially leading to a paradigm shift in military doctrine. The research concludes by highlighting the need for further exploration into the integration of AI in defence strategies, ensuring that future developments align with the overarching goals of national security and global stability.

**Keywords:** Artificial Intelligence (AI), Autonomous, Defence, Warfare, Weapons System.

### 1. Introduction

Artificial intelligence (AI) is a scientific discipline focused on creating computers and machines capable of reasoning, learning, and performing tasks that typically necessitate human intelligence. Artificial Intelligence (AI) has increasingly become a crucial element in contemporary warfare, transforming the dynamics of conflict (Osimen, Fulani, Chidozie, & Dada, 2024). Russell and Norvig (2020) defined AI as the creation and development of



intelligent agents that perceive information from their surroundings and perform actions that influence those surroundings.

According to Chakour (2022), the integration of artificial intelligence (AI) into weapon systems has emerged as a significant focus of research over the last decade. These efforts aim to enhance the precision of weaponry, facilitate alternative targeting methods, support navigation and guidance in challenging environments such as those lacking Global Positioning System access, and optimise computational efficiency compared to conventional physics-based methods, thereby allowing for smarter targeting in smaller and more cost-effective weapon systems.

War has traditionally been perceived as a straightforward and aggressive confrontation. However, the advent of Artificial Intelligence (AI) in military operations has facilitated the use of lethal autonomous systems, along with improvements in small arms, light weapons, and three-dimensional (3D) printing technologies (Currie, 2022).

In the ongoing conflict between Russia and Ukraine, video footage has shown drones operating deep within Russian territory, over 1000 kilometres from the border, and targeting oil and gas facilities. According to Adam (2024), it is believed that Artificial Intelligence (AI) could be significantly influencing the navigation of these drones to their designated targets. This development suggests that human involvement may not be essential for launching or completing the detonation of these weapons.

A study conducted by Adam (2024) examined the current utilisation of AI weapons and the methods for their control. It highlights the challenges faced by experts and ethicists in understanding the appropriate application of AI in military settings. The research conducted by Chakour (2022) examined the expansion of operational capabilities for operators by integrating unmanned aerial vehicles and collaborating with both manned and unmanned platforms through the application of swarming techniques. A chapter authored by Abaimov and Martellini (2020) discuss the role of Artificial Intelligence in Autonomous Weapon Systems, examining AI's influence on autonomy, addressing deployment concerns, integrating ethical principles, uncovering legal challenges from the AI arms race, and anticipating future obstacles.

## 2. Objectives

This study aims to shed light on the transformative impact of Artificial Intelligence (AI)-driven weapons systems on modern warfare. This research will tackle the complex challenge of integrating AI technology into existing defence frameworks, aiming to bolster the capabilities of armed forces while ensuring strategic stability (Chukwudi, Osimen, Dele-Dada & Ahmed, 2024).



### 3. Methods

This study adopts qualitative research methods in the source for information which are secondary data. The sourced information is obtained from textbooks, Journals and conference publications, Newspapers, Magazines, and reliable internet materials. The data collected were analysed thematically.

### 4. AI's Driven Weapons System

AI-driven weapon systems are sophisticated military technologies that leverage artificial intelligence to execute functions typically performed by human operators. These systems possess the capability to function either autonomously or semi-autonomously, making decisions informed by data inputs and pre-established algorithms (Rashid, Kausik, Sunny, & Bappy, 2023). The U.S. Department of Defense (2012), states that once activated, AWS can identify and engage targets independently, without requiring additional input from human operators

Artificial intelligence (AI) has emerged as a significant force in contemporary society, particularly with the advent of the Fourth Industrial Revolution, and has notably transformed operations within the Armed Forces. Artificial intelligence is increasingly common and embraced in various sectors of daily life. Its diverse applications include speech recognition, biometric authentication, mobile mapping, navigation systems, transportation and traffic management, manufacturing processes, supply chain management, data collection, and targeted online marketing strategies (Das, Dey, Pal & Roy as cited in Rashid, Kausik, Sunny, & Bappy, 2023).

According to Marijan (2022), Russia has achieved significant progress in the development of autonomous tanks, which are capable of operating independently without human intervention to correct potential errors. Meanwhile, the United States has showcased various capabilities, such as munitions designed to eliminate surface vessels through the use of drone swarms. Artificial intelligence plays a crucial role in advancing swarming technologies and loitering munitions, often referred to as kamikaze drones.

The Internet is replacing conventional warfare methods that have been used since the beginning of World War II. According to the US Department of Defense (DoD) (2020), Artificial Intelligence differs greatly from traditional software, which follows fixed instructions. AI, on the other hand, learns and improves its performance in designated tasks over time (United States Government Accountability Office, 2022). The main goal of the autonomous system framework is to reduce or completely remove the need for human labour (Daudu et al., 2023).

Numerous categories of AI-driven weapon systems have been developed, employed, or tested. A pertinent example is the Samsung SGR-A1 system, it is a robotic platform designed to monitor the demilitarised zone between North and South Korea, potentially replacing human



sentinels. It operates in two modes: unsupervised, where it autonomously detects and engages intruders without human input, and supervised, where military personnel make firing decisions. Thus, the SGR-A1 is classified as an autonomous weapon system (AWS) in unsupervised mode, but not in supervised mode (Griffy-Brown, Earp, & Rosas, 2018).

Another example is the KUB-BLA loitering munition created by Russia, which can identify targets using artificial intelligence (Marijan, 2022). Another intriguing example is the Sistema “Perimetr,” known in the West as ‘The Dead Hand,’ developed in the Soviet Union. This system can autonomously launch nuclear intercontinental ballistic missiles (ICBMs) by sending a pre-established order from the General Staff to command posts and silos across Russia. It activates upon detecting a nuclear attack through seismic, light, radioactivity, and pressure sensors, even if the command structure is incapacitated, such as in a decapitating strike (Stilwell, 2022).

Numerous influential nations are significantly engaged in the advancement of autonomous weaponry, these nations include China, Japan, India, Israel, Russia, South Korea, the United Kingdom, and the United States (Haner & Garcia, 2019). According to Allen (2019), the leadership in China perceives that leading in artificial intelligence is essential for future global military dominance. The Stockholm International Peace Research Institute (2020), estimated that China invested around \$4.5 billion in drone technology, including autonomous systems.

The Chairman of the Federation Council’s Defense and Security Committee remarked that autonomous systems are on the verge of being able to ‘replace a soldier on the battlefield or a pilot in an aircraft cockpit’ (Carlo, 2021). Russia, as early as 2017, was already developing artificial intelligence-guided missiles capable of changing targets mid-flight without any human operator involved (O’Connor, 2017 as cited in Winter, 2022).

## **5. Theoretical Framework – Revolution Military Affairs (RMA) and Security Dilemma**

This study is anchored under Revolution in Military Affairs (RMA) and Security Dilemma. The RMA posits that significant alterations in various aspects of warfare will lead to transformations in the overall military framework and its operational strategies (Loo, 2009 as cited in Domingo, 2014). Proponents of the theory are Andrew Marshall and Martin van Creveld, they have offered various definitions; nonetheless, this article adopts the definition of RMA put forth by Andrew Krepinevich a close associate of Andrew W. Marshall, who describes it as “the application of new technologies into a significant number of military systems... in a way that fundamentally alters the character and conduct of conflict” (Krepinevich, 1994 as cited in Domingo, 2014; Gray, 2006).

Proponents of the theory argue that the current Revolution in Military Affairs (RMA) is defined by technological advancements originating from the 1991 Gulf War. Central to this RMA are three key elements: information superiority, precision-guided munitions, and joint-service



military operations. Information superiority enhances command and control, improves battlefield awareness, and restricts enemy manoeuvrability (United States Navy, 2013). RMA Theory argues that AI can fundamentally change warfare by enhancing military capabilities.

Historically, revolutions in military affairs have reshaped the conduct of war, with each iteration bringing forth new tactics and capabilities. For instance, the introduction of gunpowder, the advent of mechanised warfare, and the utilisation of nuclear technology each marked revolutionary shifts in military strategy and effectiveness (Cordesman, 2014; Guilmartin, 2024).

Revolution in Military Affairs (RMA) is revolutionary not mainly because of how quickly it occurs, but due to its significant impact on the nature of warfare. The defining feature of an RMA is its fundamental departure from conventional military strategies and practices, which it effectively makes obsolete (Vickers & Martinage, 2004). The RMA suggests that forces utilising AI can gain strategic advantages through rapid data analysis, enhanced situational awareness, and faster decision-making. AI also minimises human presence in dangerous environments, preserving lives and increasing effectiveness, aligning with the RMA's vision of interconnected combat units for superior information and responsiveness (Daniels, 2022).

The Revolution in Military Affairs emphasises the need for military organizations to adapt to advancements in artificial intelligence, raising ethical and accountability concerns, especially regarding autonomous decision-making in targeting. The emergence of autonomous systems capable of lethal force challenges existing warfare regulations like the Geneva Conventions, highlighting the urgency of these issues. Despite criticism, RMA offers valuable insights into the impact of AI on warfare, emphasising technology's influence on Military affairs, which therefore spurs the use of the second theory, Security Dilemma.

Meanwhile, the security dilemma, is a concept rooted in international relations, refers to a situation in which a state's efforts to enhance its security inadvertently provoke insecurity in other states, leading to an arms race or conflict. This theory has been expounded upon by various scholars, including Herbert Butterfield, John H. Herz and Robert Jervis ever since it was formulated in 1949, who have analysed how the actions taken by one state to bolster its military capabilities can be interpreted as a threat by others, compelling them to also ramp up their arms, thereby increasing overall tension and instability (Tang, 2009; Meserole, 2018).

In the context of Artificial Intelligence (AI) driven weapons systems, the security dilemma manifests negatively, exacerbating global insecurity. These advanced military technologies, designed to enhance operational efficiency and decision-making, introduce significant uncertainty into the international arena. Artificial intelligence was initially intended for applications in surveillance, reconnaissance, and military tactical operations. However, its



scope has expanded significantly as nations have integrated AI technologies into their strategies for information and cyber warfare (Dahab, 2019).

Herbert Butterfield posited that the security dilemma has the potential to propel nations into conflict, despite their lack of intent to inflict harm upon one another. He stated,

“The greatest war in history can be produced without the intervention of any great criminals who might be out to do deliberate harm in the world. It could be produced between two powers, both of which were desperately anxious to avoid a conflict of any sort” (Butterfield, 1951 as cited in Tang, 2009).

As states develop and deploy AI-driven weaponry such as drones capable of autonomous targeting their potential for miscalculation and unintended escalation rises dramatically. The opacity surrounding AI algorithms makes it difficult for states to assess the intentions behind an adversary’s military enhancements, echoing the concerns articulated in security dilemma theory (Mesorole, 2018).

One of the critical negative aspects of AI-driven weapons systems is the risk of rapid escalation due to erroneous targeting or glitches in decision-making processes. When AI systems operate autonomously without human intervention, the potential for malfunction or misunderstanding grows, leading to actions that may be perceived as aggressive by rival states (Caruso, 2024). This uncertainty can trigger pre-emptive strikes or reactive military builds, ultimately contributing to a cycle of distrust and arms proliferation, as states feel compelled to defend against perceived threats generated by their adversaries’ AI capabilities.

Likewise, the lack of transparency regarding the deployment and use of AI in military contexts complicates verification and confidence-building measures. States may suspect that their rivals are leveraging AI not only for defensive purposes but also for offensive strategies, increasing the likelihood of a security dilemma scenario. As military AI capabilities advance, nations may find themselves locked in a precarious balance of power, where the rapid pace of technological development leaves little room for diplomatic engagement (Tang, 2009).

The security dilemma theory, therefore, highlights the aspects associated with the proliferation of AI-driven weapon systems, as the drive for enhanced security which can lead to an increase in global tensions and conflicts.

## **6. Impact of AI’s Driven Weapons System on Modern Warfare**

War has long been seen as a fundamental part of human existence. According to Clausewitz, it is an instrument used to achieve specific goals, defined as “a continuation of politics by other means” (Lavazza & Farina, 2023). Mearsheimer (2003) argued that the only way to guarantee security is through the accumulation of such overwhelming power that no other entity can



challenge it, implying that warfare is a fundamental aspect of human nature (as cited in Lavazza & Farina, 2023).

At the state level, some constitutions explicitly prohibit war as a means of aggression and allow it only for defensive purposes. However, many global powers still resort to warfare as a tactic to achieve their geopolitical goals. Military capability serves as the contemporary benchmark for evaluating a nation's "Powerforce" (Rashid, Kausik, Sunny, & Bappy, 2023). The insatiable human urge for power (*animus dominand*), continues to be the primary catalyst for wars and conflicts, as noted by Morgenthau in 1946 (Lavazza & Farina, 2023).

The Stockholm International Peace Research Institute highlights that artificial intelligence is now vital in military strategies and budgets, significantly contributing to the impact of the current arms race (Csernaton, 2023). Military AI systems are capable of handling data more efficiently than conventional systems. Their inherent computing and decision-making abilities enhance the self-control, self-regulation, and self-activation of combat systems. Artificial intelligence is integrated into nearly all military applications, and the anticipated boost in research and development funding from military research organisations is likely to propel the growing demand for AI-driven systems within the armed forces (Rashid, Kausik, Sunny, & Bappy, 2023).

Artificial intelligence significantly impacts modern warfare, particularly through the development of autonomous unmanned aerial vehicles (UAVs), AI-enhanced cyber weapons, and advanced unmanned ground vehicles (UGVs) (Osimen, Newo, & Fulani, 2024). The integration of artificial intelligence into military technology is already evident in various applications, including drone swarms, precision-guided munitions, and logistical assessments. The use of autonomous systems in defensive armaments, such as anti-vehicle and anti-personnel mines, has been established for quite some time. Anticipated advancements in this field are expected to pursue progressively higher degrees of autonomy (Nimit, 2024).

AI driven weapon systems have been engaged in the major wars fought today. According to a report by RIA Novosti (2023), the S-350 Vityaz anti-aircraft missile system successfully engaged and destroyed aircraft belonging to the Armed Forces of Ukraine utilising its fully automated operational capabilities. This represents the first time the S-350 has functioned entirely in automatic mode.

The rise of artificial intelligence has significantly changed warfare in the 21st century, as seen in the Russia-Ukraine conflict. Russia uses AI to analyse satellite imagery for targeting military assets and has deployed drones against tanks and installations. Meanwhile, Ukraine employs modified commercial drones to drop grenades on Russian troops and integrates AI for logistics, monitoring enemy movements, and optimising operations. This trend highlights the growing



complexity and effectiveness of AI weaponry. (Bendett, 2023; Adam, 2024; Osimen, Newo, & Fulani, 2024).

The escalating tensions between Iran and Israel underscore the role of AI-driven weaponry in modern warfare. Iran's recent missile strike on Israel illustrates the impact of AI-integrated systems, as their use of AI-assisted guidance likely improved strike accuracy. Conversely, Israel's Iron Dome, enhanced by AI technology, effectively intercepts incoming missiles, reducing potential destruction and loss of life (Gritten, Murphy, & Jackson, 2024).

Autonomous weapon systems function independently of human control, unlike current drones, which require human operators to identify targets and manage weaponry, despite having some autonomous features like autopilot and navigation (ICRC, 2014).

The latest advancement in artificial intelligence, generative pre-trained transformers (GPT), could significantly impact geopolitics related to warfare and deterrence, though it may also present existential challenges (Hirsh, 2023). On one hand, this technology could reduce warfare lethality and improve deterrence strategies by increasing the use of AI-operated drones in military operations, potentially saving human lives. While AI-powered software may force major nations to shorten decision-making times to minutes instead of hours or days and depend more on AI strategy and tactic assessment.

## **7. AI's Weapon and the Future of Modern warfare**

In 2017, Russian President Vladimir Putin claimed that the nation that dominates artificial intelligence will govern the world. He further said that future conflicts will be decided by the effectiveness of drones, with victory hinging on the destruction of one side's drones by the other (Military Africa, 2023). Artificial intelligence represents one of the numerous emerging technologies poised to significantly transform the nature of warfare in the foreseeable future. This capability is advancing at a remarkable pace. The United States is testing artificial intelligence systems that can autonomously operate a modified version of the F-16 fighter jet. Russia is working on self-driving tanks, and China is making progress in developing AI-powered weaponry (Hirsh, 2023).

In future warfare, autonomous AI weapon systems are likely to replace human decision-making at all levels. Currently deployed, these systems can respond to threats faster than humans, posing significant challenges for countering them in conflicts (Ploumis, 2022).

The growing integration of artificial intelligence within military frameworks presents the possibility of profound changes in the characteristics and circumstances of combat and warfare. Advocates of autonomous weapon systems contend that these technologies can be designed to function with greater caution and precision than human operators, potentially reducing the incidence of unintended civilian casualties. While detractors assert that such systems will



inherently lack the essential human judgment required for the lawful application of force, thereby increasing the likelihood of significant human costs (ICRC, 2014).

According to Lavazza and Farina (2023), Autonomous weapon systems (AWS) is considered by some as particularly dangerous because they can function with minimal human supervision in military operations. Supporters of this perspective argue that this transition may result in a lack of clear regulations and a shortfall of empathy and compassion in combat scenarios, which could ultimately blur accountability for any crimes committed during warfare (Abasilim, Gbervbie, & Osibanjo, 2019).

The International Committee of the Red Cross (ICRC) has suggested that the emergence of autonomous weapons would represent a significant shift in warfare, as it would remove human participation in combat and shift that responsibility to machines (ICRC, 2014). Herbert Lin from Stanford in an interview warned that decision-makers might increasingly incorporate AI into their command-and-control systems, as AI operates much faster than human cognition (Lin, 2021).

Douglas Shaw, a senior advisor at the Nuclear Threat Initiative, expressed his belief that it is quite plausible to envision a future where drones significantly outnumber personnel in the military. Retired U.S. Air Force General Charles Wald also stated that this development would serve as a force multiplier, highlighting that one of the primary challenges currently faced is recruitment (Hirsh, 2023).

A report published by the Arms Control Association in early February 2023, pointed out that developments in artificial intelligence and other innovative technologies, such as hypersonic missiles, could blur the distinction between conventional warfare and nuclear conflict. The report stressed that the rapid push to utilise these emerging technologies for military purposes has surpassed efforts to assess the related risks and establish regulatory frameworks. As a result, it is essential to slow down the militarisation of these technologies, carefully evaluate the potential dangers, and enforce strict limitations on their military use (Arms Control Association, 2023).

## 8. Conclusion

The rise of artificial intelligence-driven weapon systems (AWS) represents a major shift in modern warfare, improving military precision and efficiency. However, AWS also presents ethical, legal, and operational challenges that require a re-evaluation of their role in defence. Critics warn that reduced human involvement may diminish accountability for autonomous actions, creating a disconnect from war's consequences. The rapid advancement of AI complicates regulatory efforts, posing risks to global security.

As military planners integrate AI into command-and-control systems, decision-making may exceed human cognitive limits, raising concerns about decision quality. The growth of drone



capabilities, potentially outpacing human forces, signals a transformation in warfare, while the merging of conventional and nuclear conflicts underscores the need for regulatory measures to manage AWS militarisation. There is increasing support for a cautious approach to AI militarisation, emphasising thorough risk assessments and strict regulations.

To address the challenges of Autonomous Weapon Systems (AWS), militaries must engage in discussions with policymakers, technology experts, ethicists, and civil society representatives. Establishing responsible guidelines for AWS deployment is crucial to align operational efficiency with ethical standards and comply with international laws. While AWS can enhance military strategies and effectiveness, it is vital to uphold human rights, humanitarian values, and global security. The evolution of warfare requires a strategy that fosters responsible innovation and accountability, protecting ethical principles and strategic stability amid advancements in artificial intelligence.

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### **Author contributions**

All authors whose names appear in this manuscript of paper contributed to the study conception and design. Material preparation, data collection and analysis were performed by Goddy Uwa Osimen and Title suggestions; first draft of the manuscript was done by Oluwakemi Morola Fulani. However, Felix Chidozie, did the final editing and proofreading of the manuscript. Conversely, all authors contributed in one way or the other to the success of the first and the final versions of the manuscript.

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### Data availability statement

The authors confirm that the data supporting the findings of this study are available within the article. Additional data supporting the conclusion of this study are available from the corresponding author upon request.

### References

- [1] Abasilim, U. D., Gberevbie, D. E., & Osibanjo, O. A. (2019). Leadership Styles and Employees' Commitment: Empirical Evidence From Nigeria. *Sage Open*, 1-15.
- [2] Adam, D. (2024). Lethal AI weapons are here: how can we control them? *Nature*.
- [3] Allen, G. C. (2019). *Understanding China's AI Strategy: Clues to Chinese Strategic Thinking on Artificial Intelligence and National Security*. Washington, DC: Center for a New American Security.
- [4] Arms Control Association. (2023). *Assessing the Dangers: Emerging Military Technologies and Nuclear (In)Stability*. Washington, DC: Arms Control Association.
- [5] Bendett, S. (2023, 20 July). Roles and Implications of AI in the Russian-Ukrainian Conflict. Retrieved from <https://www.russiamatters.org/analysis/roles-and-implications-ai-russian-ukrainian-conflict>
- [6] Carlo, A. (2021). Artificial Intelligence in the Defence Sector. In J. Mazal, A. Fagiolini, P. Vasik, & M. Turi (Ed.), *Modelling and Simulation for Autonomous Systems (MESAS, 2020)* (pp. 269-278). Cham: Springer Nature.
- [7] Caruso, C. (2024). *The Risks of Artificial Intelligence in Weapons Design*. Boston: Harvard Medical School.
- [8] Chakour, S. (2022). *Artificial Intelligence (AI) for Weapons Systems*. Belcamp, Maryland: DSIAC.
- [9] Chukwudi, E, C, Osimen, G.U, Dele-Dada, M., Ahmed, T.M.O. (2024) Conflict and Security Challenges in the Semi-Arid Region of Sahel: Implications for Sahel Women's empowerment and Demographic Dividend (SWEDD); *Journal of Somali Studies: Vol.11 (1)*, 81-107-Uk. 10.31920/2056-5682/2024/v11n1a4
- [10] Cordesman, A. H. (2014). *The Real Revolution in Military Affairs*. Washington, DC: Center for Strategic and International Studies.



- [11] Csernaton, R. (2023). WEAPONIZING INNOVATION? MAPPING ARTIFICIAL INTELLIGENCE-ENABLED SECURITY AND DEFENCE IN THE EU. Monterey: EU Non-Proliferation and Disarmament Consortium.
- [12] Currie, C. (2022, May 22). The Evolution of War: How AI has Changed Military Weaponry and Technology. Retrieved April 16, 2024, from <https://montrealethics.ai/https://montrealethics.ai/the-evolution-of-war-how-ai-has-changed-military-weaponry-and-technology/>
- [13] Dahab, G. O. (2019, January 6). The weaponization of artificial intelligence (AI) and its implications on the security dilemma between states: could it create a situation similar to "mutually assured destruction" (MAD). The American University in Cairo, Department of Public Policy and Administration. Cairo: AUC Knowledge Fountain.
- [14] Daniels, O. J. (2022). The "AI RMA": The Revolution Has Not Arrived (Yet). Jaffrey: The Andrew W. Marshall Foundation.
- [15] Daudu, B. O., Osimen, G. U., & Shuaibu, K. (2023). "Cyberbullying and Social Media: Implications for African Digital Space," Mohamed Lahby, Al-Sakib Khan Pathan & Yassine Maleh (eds.), *Combatting Cyberbullying in Digital Age with Artificial Intelligence*, pp. 243-253. Chapman and Hall/CRC Press.
- [16] Domingo, F. (2014). The RMA Theory and Small States. *Military and Strategic Affairs*, 43-58.
- [17] Griffy-Brown, C., Earp, B. D., & Rosas, O. (2018). Technology and the good society. *Technology in Society*, 1-7. Gray, C. S. (2006). RECOGNIZING AND UNDERSTANDING REVOLUTIONARY CHANGE IN WARFARE: THE SOVEREIGNTY OF CONTEXT. *Strategic Studies Institute*, 1-59.
- [18] Gritten, D., Murphy, M., & Jackson, P. (2024). What we know about Iran's missile attack on Israel. London: BBC News.
- [19] Guilmartin, J. F. (2024, October 22). The gunpowder revolution, c. 1300–1650. Retrieved November 1, 2024, from <https://www.britannica.com/https://www.britannica.com/technology/military-technology/The-gunpowder-revolution-c-1300-1650>
- [20] Haner, J., & Garcia, D. (2019). The Artificial Intelligence Arms Race: Trends and World Leaders in Autonomous Weapons Development. *Global Policy*, 331-337.
- [21] Hirsh, M. (2023, April 11). How AI Will Revolutionize Warfare: The new arms race in technology has no rules and few guardrails. Retrieved October 3, 2024, from [foreignpolicy.com: https://foreignpolicy.com/2023/04/11/ai-arms-race-artificial-intelligence-chatgpt-military-technology/](https://foreignpolicy.com/https://foreignpolicy.com/2023/04/11/ai-arms-race-artificial-intelligence-chatgpt-military-technology/)
- [22] ICRC. (2014). Autonomous weapon systems - Q & A. Switzerland: International Committee of Red Cross.



- [23] Lavazza, A., & Farina, M. (2023). Leveraging autonomous weapon systems: realism and humanitarianism in modern warfare. *Technology in Society*, 1-10.
- [24] Lin, H. (2021, November 30). Interview: Stanford's Herbert Lin on "Cyber Threats and Nuclear Weapons". (J. Mecklin, Interviewer)
- [25] Marijan, B. (2022). *AI-Influenced Weapons Need Better Regulation*. New York: Springer Nature.
- [26] Meserole, C. (2018). Artificial intelligence and the security dilemma. *Brookings*, 1-5.
- [27] Military Africa. (2023, November 27). Artificial Intelligence (AI) in the Military. Retrieved April 24, 2024, from <https://www.military.africa/>  
<https://www.military.africa/2023/11/artificial-intelligence-in-the-military/>
- [28] Nimit. (2024, April 6). The Ethics of AI in Modern Warfare: Balancing Innovation with Moral Accountability. Retrieved October 4, 2024, from [hackernoon.com](https://hackernoon.com/the-ethics-of-ai-in-modern-warfare-balancing-innovation-with-moral-accountability):  
<https://hackernoon.com/the-ethics-of-ai-in-modern-warfare-balancing-innovation-with-moral-accountability>
- [29] Osimen, G., Fulani, O., Chidozie, F., & Dada, D. (2024). The weaponisation of Artificial Intelligence in Modern Warfare: Implications for Global Peace and Security. *Research Journal in Advanced Humanities*, 24-36.
- [30] Osimen, G., Newo, O., & Fulani, O. (2024). ARTIFICIAL INTELLIGENCE AND ARMS CONTROL IN MODERN WARFARE. *Cogent Social Sciences*, 1-39.
- [31] Ploumis, M. (2022). AI weapon systems in future war operations; strategy, operations and tactics. *Comparative Strategy*, 1-18.
- [32] Rashid, A. B., Kausik, A. K., Sunny, A. A., & Bappy, M. H. (2023). Artificial Intelligence in the Military: An Overview of the Capabilities, Applications, and Challenges. *International Journal of Intelligent Systems*, 1-31.
- [33] RIA Novosti. (2023). For the first time, the S-350 shot down aircraft of the Armed Forces of Ukraine in full automatic mode, the source said. Moscow: РИА Новости.
- [34] Russell, S., & Norvig, P. (2020). *Artificial Intelligence: A Modern Approach* (4th ed.). Upper Saddle River, NJ: Pearson.
- [35] Stilwell, B. (2022, March 9). Russia's 'Dead Hand' Is a Soviet-Built Nuclear Doomsday Device. Retrieved October 3, 2024, from [www.military.com](https://www.military.com/history/russias-dead-hand-soviet-built-nuclear-doomsday-device.html):  
<https://www.military.com/history/russias-dead-hand-soviet-built-nuclear-doomsday-device.html>
- [36] Stockholm International Peace Research Institute. (2020). *SIPRI Military Expenditure Database*. Stockholm: SIPRI .
- [37] Tang, S. (2009). The Security Dilemma: A Conceptual Analysis. *Security Studies*, 587-623.
- [38] United States Government Accountability Office. (2022). *ARTIFICIAL INTELLIGENCE*. Washington, DC: GAO.



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- [39] United States Navy. (2013). U.S. Navy Information Dominance Roadmap, 2013–2028. Washington D.C: Pentagon.
- [40] Vickers, M. G., & Martinage, R. C. (2004). The Revolution in War. Washington, DC: Center for Strategic and Budgetary Assessments.
- [41] Winter, E. (2022). The Compatibility of Autonomous Weapons with the Principles of International Humanitarian Law. *Journal of Conflict & Security Law*, 1-20.