



Autonomous Warfare: Exploring the Consequences of AI-Powered Weapons System on Global Peace and Security

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Abstract: - The inclusion of Autonomous machine into armed forces activities has significant consequences for the world order. Grasping these consequences has become a primary concern for decision-makers, analysts, and global stakeholders. This research explores how AI-powered weapons systems affect defence systems, focusing on advanced military technologies and emphasising the possible risk of weaponry competition. The central point is that the ethical use of AI is crucial for preserving serenity. With the adoption of a critical analysis of existing literature and case studies, this study assesses AI's role in military contexts and its ethical dimensions. The study found that while AI improves military capabilities, it raises significant legal and ethical issues. Consequently, it recommends establishing AI governance, international standards, and collaborative efforts to avert abuse.

Keywords: Autonomous Warfare, Weapon, Modern, Combat, AI, Global Security.

1. Introduction

Autonomous warfare relates to the application of artificial intelligence (AI) in warfare, in particular through the employment of lethal autonomous weapons systems (LAWS) or "killer robots." These weapon systems can select and engage targets with minimal human intervention, raising grave ethical, legal, and security concerns at the international level. As nations continue to develop their military technologies, the stakes of autonomous warfare are becoming increasingly critical to international peace and security, with disagreements intensifying over responsibility and the potential for abuse in combat scenarios (Perrin, 2025).



The evolution of warfare technology started with the invention of black powder in ancient China, a groundbreaking innovation that significantly enhanced fighting methods (Alius, 2018). Gunpowder arrived in Europe by the 13th century, and Roger Bacon meticulously recorded its composition. Firearms technology evolved, revolutionising warfare dynamics dramatically (Epstein, 2022). Military technological superiority has long driven armed forces innovation, from 20th-century mechanised warfare to the 21st-century development of cyber military campaigns (Military Africa, 2023). The development of destructive weapons, such as explosives and nuclear bombs, has been followed by advancements in computational analysis, forming the building blocks for the robotisation of defence operations (Osimen, Daudu, & Awogu-Maduagwu, 2023).

War has traditionally been conceived as an intense and forceful conflict. However, developments in compact technology have reconfigured this classical view, stretching the definition of war to include more covert operations (Daudu et al., 2023). AI is now applied in combat training, battlefield medicine, and strategic planning through real-time data analysis (Chukwudi et al., 2024; Marwala, 2023). The origin of AI can be dated back to the 1950s when Alan Turing proposed that machines can replicate human judgment and reasoning (Anyoha, 2017). AI weapons systems have sparked contentious debates, leading to calls for regulatory structures to manage their application. States have been meeting since 2014 within the Convention on Conventional Weapons (CCW) to consider the consequences of LAWS, but progress towards a treaty has been slow (International Committee of the Red Cross, 2022).

China, Israel, Russia, South Korea, Türkiye, the United Kingdom, and the United States are among the nations reported to be heavily investing in autonomous weapons (Bhatt & Bharadwaj, 2024). This race among states underscores the necessity for cohesive governance to mitigate the risks of these new technologies. Some ethical issues associated with autonomous warfare include relinquishing human oversight in life-and-death decisions and the inability to ensure compliance with international humanitarian law (IHL) (Cope, 2024; Osimen, Dele-Dada, & Osere, 2025). As AI systems become increasingly autonomous in conflict scenarios, they challenge the foundational assumptions of the ethics of war and human rights with questions about the ethical ramifications of outsourcing life-and-death decisions to machines.

The geopolitical landscape of warfare is to shift, with new technologies like drone swarms and cyber warfare capabilities leading to new forms of warfare that go beyond traditional boundaries (Alvarez, 2021). The prospects of an arms race and the uncertainty of applying the new hybrid warfare methodologies concern global stability. Researchers have attempted to decipher the implications of these advances; for instance, Saidi (2022) lays out the advantages and quandaries of AI adoption in military planning, whereas Dresch-Langley (2023) warns of dangers brought by Automated Weapon Systems (AWS). In addition, Seamus (2020) describes



how AI-driven warfare has reconstituted power dynamics among global superpowers and private weapons manufacturers.

This study explores the intricate connection between AI and military operations, a nexus that has the potential to reshape international security structures. By examining the effects of integrating AI into the military, the study assesses how high-tech advancements, such as autonomous weapons and surveillance systems, enhanced defence capabilities. Furthermore, it investigates AI's potential role in conflict prevention and resolution through sophisticated data analysis. As global security paradigms shift, the challenge remains to balance leveraging AI for state security while maintaining global stability and upholding humanitarian values.

This research employs qualitative analysis using secondary data from academic literature, policy reports, and international agreements. The conceptual analysis evaluates the implications of AI-powered weapons systems on global peace and security

2. Conceptualisation of Terms

Autonomous Warfare

Recent developments in autonomous warfare have seen the deployment of various AI-driven systems. For instance, the U.S. Army has been enhancing its drone capabilities, making them more lethal and widely used in warfare.

Autonomous Weapons Systems (AWS) is a term used to refer to military systems with the ability to select and engage targets under minimal or no human control the prospect made possible by rapid progress in artificial intelligence (AI) and robotics. Autonomous warfare is the integration of artificial intelligence (AI) and machine learning into military systems, enabling them to perform tasks such as surveillance, target identification, and lethal strikes without direct human intervention (Blanchard, Novelli, Floridi, & Taddeo, 2023). These systems, known as Lethal Autonomous Weapons (LAWs), are designed to select and engage targets based on pre-programmed criteria or real-time data analysis.

According to (Manning, 2020), autonomous warfare refers to the use of autonomous systems, such as robots or artificial intelligence (AI), in military operations to select and engage targets without human intervention. This concept has sparked intense debate among military planners, roboticists, and ethicists regarding its development, deployment, and regulation. Autonomous systems can act as a force multiplier, reducing the number of war fighters needed for a mission while increasing efficacy (Joshi, 2019). They can also expand the battlefield, allowing combat to reach previously inaccessible areas, and reduce casualties by removing human war fighters from dangerous missions. Some experts argue that autonomous systems can act more humanely on the battlefield, as they are not influenced by emotions like fear or hysteria. They can process vast amounts of sensory information without discarding or distorting it to fit preconceived notions.



As technologies continue to evolve, they raise profound ethical, legal, and operational challenges that are reshaping international security debate. AWS and LAWS are increasingly used in contemporary wars, such as in Ukraine, Libya, and Gaza, which has caused heated discussion among policymakers, the military, and ethicists (Trumbull, 2024; Lee, 2025). These systems are touted for their operational effectiveness, but also pose critical issues on accountability, legitimacy, and the ethics of outsourcing life-and-death decisions to machines.

Accounting for the rise of AWS/LAWS begins with Technological Determinism, a theory that argues that changes in technology result in societal change, typically independent of policy intention or human values. Within the military context, this school of thought argues that institutions and states respond more to, rather than dictate, the pace of technological change.

This is evident in the deployment of AI-powered autonomous weapons in Ukraine and Gaza, where military reasoning appears to be outpacing ethical or legal ones (Scharre, 2020). Although rudimentary forms of autonomous weapons have been around since World War I (Ekelhof, 2017), modern systems are far more sophisticated and strategically important. The trend for autonomy within military doctrine and acquisition is revolutionising the way wars are fought, in most instances, before ethical frameworks or international laws can catch up. For example, cost-effectiveness and the possibility of reducing human casualties have prompted investments in drone and robotic systems, yet critics are alert to an unsettling discrepancy between technological innovation and the ability to apply human-centred legal or moral standards (Kmentt, 2025). This reflects the deterministic nature of AWS proliferation: innovation drives adoption, regardless of whether governing institutions are prepared to manage its use.

Technological determinism explains how AWS/LAWS arise, but then Just War Theory addresses whether and when their employment can be morally justifiable. Central to this tradition are proportionality, discrimination, and necessity as the essential principles requiring the use of force to be warranted and humane. AWS/LAWS directly upset these principles by removing human judgment from the decision process in war. Critics argue that autonomous systems lack moral analysis capabilities to distinguish between combatants and non-combatants or assess proportionality in dynamic, uncertain contexts (Horowitz, 2016; Rathour, 2023). These criticisms are more than speculative. The post-9/11 era demonstrated the disastrous impact of remotely controlled attacks on civilian populations, raising suspicions regarding the ethical possibility of further separating human control from lethal action (Raden, 2023).

Moreover, ethical concerns are magnified in riskier contexts. Even though proponents maintain that AWS can be utilised in narrowly defined situations, e.g., to counteract nuclear threats, opponents contend that any such logic of machine-led violence has the power to jeopardise the ethical constraints of war in general (Hammes, 2023; Sergeev, 2024). Just War Theory is thus



still vital in deciding whether the technological potential to conduct autonomous war aligns with or contradicts fundamental moral standards.

Colonel Glenn Henke highlighted the increasing threat posed by drones, emphasizing the need for rapid adaptation and countermeasures (Kling,2021). Similarly, German defense technology start-up Helsing is developing autonomous underwater drones, such as the SG-1 Fathom mini submersibles, equipped with advanced AI systems for naval surveillance. These drones can patrol underwater for extended periods, detecting and classifying acoustic signatures from ships and submarines with high precision (Sparrow,2023).

Addressing the dangers of AWS/LAWS entails more than ethical concern; it requires good governance. Governance Theory focuses on institutions, norms, and mechanisms through which societies regulate activities and assign responsibility. In independent warfare, this involves an investigation of how international law, treaties, and military policies might be adjusted to regulate systems that require minimal human intervention.

This is a basic challenge that comes in the form of the lack of a harmonised definition of autonomy in weapon systems. For instance, the U.S. Department of Defence defines AWS as systems capable of selecting and engaging targets with no further human intervention, while the UK Ministry of Defence emphasises systems that understand higher-level intent and have situational awareness akin to human-like cognition (Sharkey, 2018; Hogan, 2021). Such differences present difficulties for international regulation initiatives and for the formulation of uniform legal norms. More ominous is the lack of accountability gap that arises when LAWS are used in illicit operations. If the killer choices are taken by machines, is accountability blurred, which raises urgent questions under International Humanitarian Law (IHL), which relies on the ability to map culpability and intent back to human decision-makers (Dohnal, 2025; Hammes, 2023). The victims then risk becoming without concrete avenues for redress, which defeats the legitimacy of international law and of rules.

The growing controversy regarding "meaningful human control" aims to resolve these challenges through the emphasis on human responsibility regarding major decisions (Verdiesen et al., 2020). However, without enforceable restrictions or international concurrence, this concept risks becoming symbolic rather than actual.

Previous arms control negotiations have tended to emphasise legal and strategic, rather than ethical, reasoning. But with the introduction of AWS/LAWS, the situation is slowly altering. For example, the UN's 2013 report by Christof Heyns, Special Rapporteur on extrajudicial, summary or arbitrary executions, warned of the ethical dangers of the delegation of targeting to algorithms. More contemporary United Nations discourse shows a growing recognition that ethical principles must be institutionalised alongside legal and governance frameworks to ensure autonomy in war does not compromise human dignity or international peace (Altmann, 2013; Sergeev, 2024).



Autonomous Weapons Systems are not just a technological feat, more than an inevitability, they are a paradigm shift in the conduct of war, morality, and international order. Here, it has been illustrated that Technological Determinism explains the force behind AWS/LAWS, Just War Theory questions their moral correctness, and Governance Theory illustrates the call for institutional accountability. Combined, these paradigms demonstrate that the challenges of autonomous warfare cannot be solved in individual silos.

However, Etzioni, and Etzioni (2017), argue that autonomous systems create a responsibility gap, making it unclear who should be held accountable for civilian deaths or other harm caused by these systems. That autonomous systems may struggle to determine who is a civilian and who is a combatant, potentially leading to unacceptable collateral damage. This claim has also been supported by many experts who believe that decisions about applying violent force should not be delegated to machines, as they lack moral agency and understanding (Kling, 2021: Blanchard, et al, 2023). Ethical concerns must inform regulation, legal frameworks must adapt to technological reality, and innovation must be guided, not driven by normative control. The future of warfare will not be dictated by what machines can do, but by what societies want to enable them to do. If the world is to ensure that the application of force remains legal and just, it is obligated to act positively to characterise, to control, and, where need be, to ban autonomous systems which run counter to values at the centre of humanitarian and ethical traditions. The AWS/LAWS question is not a question of machines; it is one of what it is to preserve human agency in the most critical decisions of war.

Concept of Artificial Intelligence: A Comprehensive Review

Artificial intelligence (AI) refers to the development of computer systems that can perform tasks that typically require human intelligence, such as learning, problem-solving, and decision-making. According to Russell and Norvig (2010), AI can be defined as "the study of agents that receive precepts from the environment and take actions. AI could be classified into Narrow or Weak AI: Designed to perform a specific task, such as facial recognition or language translation (Kurzweil, 2005) and General or Strong AI: A hypothetical AI system that possesses human-like intelligence and can perform any intellectual task (Kurzweil, 2005). Artificial intelligence is a ground-breaking tech comprising information networks capable of performing tasks typically reliant on mental acuity, like optical processing, voice discernment, choice analysis, and linguistic conversion (Military Africa, 2023). The idea of "Artificial Intelligence" was first introduced by McCarthy (1955), who described it as the study and practice of developing intelligent machines through science and engineering (Manning, 2020). AI is commonly characterised as a technology enabling machines to mimic a broad array of complex human skills. AI refers to networks that exhibit astute behaviour by analysing their setting and engaging with activities of a certain level of independence to attain distinct objectives (The European Commission, 2018).



Baker (2018) notes that several AI specialists gave a tripartite category of AI. Narrow AI is the first category in which AI systems excel in particular duties beyond human capabilities, such as scheme identification. The second category, artificial general intelligence, depicts a level where machines outperform humans across various responsibilities, can transition between tasks effortlessly, and possess the ability to self-train and code. The third category, artificial superintelligence, refers to a stage where machines surpass human intelligence in all aspects. A super intelligent machine could have internet connectivity, process enormous data loads, and possibly mislead humans into thinking it is harmless.

A Lead Scholar at West Point, Cruickshank (2023), argued that ignoring AI's potential to address mental faculties limitations in strategic functions would be careless and unprincipled. He also highlights that specialists stress the need to harness AI's advantages while lessening likely threats to troops and non-combatants (Cruickshank, 2023). Marwala (2023) argues that integrating AI into military operations profoundly affects global defence and war waging. AI can improve military effectiveness by accelerating judgement, enhancing targeting accuracy, and optimising resource allocation. Additionally, employing self-operating weapons could lower risks for human soldiers by removing the need for hands-on engagement. AI in defence applications has been a transformative factor and has given military upfront to some countries (Jyothi et al., 2022). Using robots and AI in ground forces carries several implications, including the potential for improved performance and reduced risk to soldiers and Marines (Ullah et al., 2023). Rickli and Mantellassi (2024) submit that equipping national armed forces with novel tools makes battlefields more globalised and intricate.

The studies examined earlier provide evidence of using AI to reduce human risks during warfare, as AI systems are deployed in combat on behalf of the military. However, there are instances of AI being misused, particularly by terrorists. On December 6, 2022, a well-known supporter of ISIS disclosed via Rocket messaging host that he seeks guidance from AI Chabot concerning how to support the Muslim State. Shortly after, other advocates began expressing enthusiasm for the use of 'Perplexity Ask' to further jihadi actions. This incident underscores the possibility that AI platforms could assist fanatical organisations in enlisting and propagating their doctrines (Lahav, 2024). Chat software can serve as practical devices for extremists, as AI algorithms can customise messages to align with prospective trainees' aspirations. Chatbots could unintentionally normalise radical doctrines and foster a sense of belonging among radical factions.

Lahav (2024) noted that there have been cases where terrorists have utilised weaponised drones and other wireless-controlled systems, with ISIS notably deploying bomb-laden drones in their strikes. In 2021, a report indicated that a drone-enabled blast took place at an Air Force facility located in Jammu, India, associated with Pakistani extremist faction Lashkar-e-Taiba. The inquiry found that insurgents used micro remotely piloted aircraft during the night to avoid



sensing and mark definite locations with bombs. Hezbollah, backed by Iran, has developed an extensive drone program, including Iranian-engineered drones such as the 'Ababil' and 'Mirsad-1' (Lahav, 2024).

In conclusion, AI has the potential to transform numerous industries and aspects of our lives. However, it also raises important questions about bias, fairness, and transparency.

AI and Advanced Autonomous Warfare Systems

Artificial intelligence (AI) is transforming the landscape of modern warfare, particularly with the development of advanced autonomous warfare systems. These systems, also known as autonomous weapons systems (AWS), are designed to operate with varying levels of human oversight, raising important questions about their potential benefits and risks. The accelerating innovation principle posits that technological advancements can be predicted and follow a rapid growth pattern (Kurzweil, 2012). Techs are continually advancing at a geometric rate. When applied to AI, LOAR argues that AI will execute a growing task in national defence (Bostrom, 2014). Similar to how aircraft operations and nuclear warheads revolutionised defence strategy in past ages, AI is redefining the core nature of defence techs (Baker, 2018).

The armed forces have seen significant progress in AI, particularly with advancements in computational linguistics. This breakthrough allows people to interact with machines using regular language structures, removing the necessity for programming commands. Osimen, Newo, and Fulani (2024) noted that these advancements offer opportunities for expanded military applications. The utilisation of machine intelligence in combat engagements is evident in high-tech logistics, semi-automated vehicle clusters, advanced supply networks, and condition-based maintenance. These prompt applications of AI demonstrate its potential to enhance defence competence and boost operational effectiveness (Chukwudi et al., 2024).

Autonomous systems can enhance military capabilities by reducing the need for human soldiers in certain missions, thereby increasing efficiency and reducing casualties (Etzioni & Etzioni, 2017). AWS can operate in areas inaccessible to humans, providing a strategic advantage (Etzioni & Etzioni, 2017). By removing human soldiers from harm's way, autonomous systems can minimize the risk of casualties (Etzioni & Etzioni, 2017). A 2017 SIPRI record examined the progression of independence in weapon systems and found that autonomy is increasingly used in various roles within these systems, particularly in tasks comprising force application. These roles include aiding in objective recognition, mapping, prioritisation, and choice in precise scenarios (Boulainin & Verbruggen, 2017).

Rapid technological innovations have given rise to both regular and irregular arms on the frontline, including various unpiloted crafts operating on the ground, in the skies, and on the water. Modern armaments, like quadcopters, employ mart precision to aim at targeted goals and minimise uncontrolled damage and fatalities (Aisedion & Osimen, 2023). The continuous



fusion of automated systems into security operations and the implementation of killer robots are driving a worldwide arms buildup. Many nations worldwide have made substantial advancements in automating personnel systems, equipment maintenance, surveillance, and using drones and robotics (Araya & King, 2022).

Seamus (2020) studied the United States, China, and Russia, noting that these nations are challenged to develop the most advanced intelligent systems. He summarised that this AI rivalry is likely to continue. The deployment of artificial intelligence by governments and communication firms introduces regulatory and moral considerations that global rule strives to address. There exists an absence of a regulatory structure governing the deployment of machine intelligence in conflicts and 21st-century combat (Humble, 2023). As long as moral responsibility rests with human operators and machines cannot form intent or understand the consequences of their use, the continuous advancement and implementation of self-operating armaments pose ethical, legal, social, economic, and political issues that must be addressed to avoid catastrophic outcomes (Dahiya, 2022). Kulshrestha (2023) submits that AI in warfare can generate illusions, fake players, and decoy characters to detect and counter potential deceptions. As AI becomes more integral to warfare, the increasing occurrence of AI-generated illusions could undermine the trust that combatants place in these systems (Osimen, Daudu, & Chidozie, 2025).

Zhang (2021) submits that the initial recorded deployment of a deadly autonomous device took place in 2021 during the conflict in Libya. According to a UN report, these weapons were designed to target autonomously and attack without operator connection, exemplifying a genuine "launch, abandon, and locate" capacity. The remote-controlled combat aircraft and compact surveillance UAVs employed by Haftar's military faction were neutralised by tech-based interference from the Koral EW network (United Nations Security Council, 2021).

It was reported that a significant disclosure from the United Nations in 2021 indicated that Turkey allegedly used autonomous firing capabilities with its Kargu-2 drones to detect and launch attacks on retreating combatants during the civil war in Libya (Trager & Luca, 2022). However, the source does not definitively affirm whether these autonomous systems caused any harm free from human error (Nasu, 2021). The Turkish company's CEO responsible for these unmanned aerial vehicles has vehemently denied that they possess such capabilities.

Nations like South Korea, Turkey, Israel, and Russia have dispatched self-operating weaponry, though there has been controversy regarding their launching techniques. It is no news that China, the US, Australia, and Britain are firmly committing to the enhancement of deadly weaponry (Trager & Luca, 2022). These weapons use machine-learning algorithms to identify targets, from rival satellite systems to individuals. LAWS have different forms, such as the Turkish Kargu-2 drone and large self-driving warplanes like the reconfigured L-39 trainer. Notably, AI represents the US's strongest asset in defence (Seamus, 2020).



Scharre (2024) noted that AI is already being utilised on the frontline in Ukraine. While men remain in charge of combat operations, AI aids in processing information more rapidly. He also remarked that “war is an accelerant of innovation,” meaning prolonged conflict tends to spur technological advancements on the battlefield. Scharre (2024) highlighted that while such technology promotes greater autonomy in military operations, it is not limited to sovereign states; for instance, Rogin and Zahn (2023) noted that ISIS had developed an AI-powered aerial fleet that conducted drone attacks against Iraqi forces a few years ago.

In examining the role of AI in the Russian-Ukraine war, a CNAS report highlighted that AI is pivotal in Ukraine’s combat by integrating visual detection with satellite imagery. This integration makes the international community recognise Ukraine’s advanced capabilities in remote sensing analysis. AI is employed to analyse shared data, such as virtual networks, to discover Russian combatants and defence operations (Bendett, 2023). Fontes and Kamminga (2023) submit that connectionist models merge surface-level photos, aerial footage, and earth views, enabling quicker cognitive assessments and proactive advantages.

The application of satellite imagery in warfare is evident in the Russian assault of Russia on Ukraine. Ukrainian forces employed the services of an American AI company known as “Clearview AI” to detect dead Russian servicemen and expose Russian assailants, thereby countering erroneous information (Bendett, 2023). It is evident that, akin to other sectors, the armed forces are significantly impacted by AI’s transformative technology. Consequently, nations are increasingly competing to leverage the vast capabilities of AI to their advantage (Maxwell, 2020). Nevertheless, these tech innovations also trigger doubts about escalating disputes, the risk of unmanned weapon systems being mismanaged, and the development of synthetic intelligence innovation sprints.

3. The Thesis of Deterrence Theory

Deterrence theory, a longstanding concept in international relations, is being reevaluated in the age of artificial intelligence (AI) and modern warfare. Traditionally, deterrence involves using threats to influence an opponent's behavior, convincing them to forgo a particular action (Osimen, Fulani, Chidozie, & Dada, 2024). However, AI's integration into military operations is transforming the nature of deterrence. Deterrence theory has its roots in classical theory, as articulated by three influential thinkers, namely Jeremy Bentham (1789), Cesare Bonesana-Beccaria (1872), and Thomas Hobbes (1651). They posit that individuals are intelligent and weigh the pros and cons before engaging in criminal behaviour. They further contend that harsh, likely, and prompt penalty serves as a restraint to discourage unlawful activities (Tomlinson, 2016).

Deterrence refers to a distinct type of dialogue in which one entity aims to influence the behaviour of another entity to achieve a particular result (Osimen, et al, 2024). It dissuades state A from taking measures that state B considers undesirable by threatening to impose



negative consequences. Deterrence aims to prevent unwanted behaviours, such as military attacks, by discouraging individuals or entities. This differs from 'compellence,' which seeks to compel a specific task (Mazarr, 2018).

The Council on Foreign Relations (2023) proclaimed that during the latter years of the Cold War, the U.S. successfully created a ballistic missile called the Guardian of Peace. This sophisticated weapon was capable of delivering ten nuclear warheads with precision over a distance of more than seven thousand miles. Although the name might seem ironic, the U. S. argued that the destructive power of these warheads would act as a restraint against hostility and foster serenity by deterring hostile actions, especially from the USSR. For deterrence to be potent, two crucial determinants are required, viz. Severity and Credibility. Severity: This entails threatening a contender with severe payback, which can be implemented through a trade embargo, foreign policy exclusion, or defence force. During the War between the US and the USSR, weapons of mass destruction represented the highest form of deterrence (Council on Foreign Relations, 2023). This approach is known as Restraint by Retribution. The level of AI credibility persuades a contender that any hostile act will trigger a significant and forceful rebuttal, shown through activities such as arms trials, bolstering the garrison, and making general statements. The US and the USSR initiated this legitimacy by engaging in defence actions and developing specialised arms mechanisms. This concept is called deterrent equilibrium (Council on Foreign Relations, 2023). It is commonly termed Restraint by Repudiation.

Looking at the deterrent theory, deterrence by denial is the beam that ensures world order. AI-powered systems can also enhance offensive capabilities, potentially favoring punishment over denial. For instance, autonomous swarming drones could provide a coercive advantage (Wilner, 2022). According to Osimen et al. (2024), AI can enhance deterrence capabilities in several areas such as improving defense. AI can augment defensive systems, making them more effective at denying adversaries the benefits of their actions or deter potential aggressors by reducing the likelihood of success. AI's ability to analyze vast amounts of data can provide predictive insights, enabling more effective decision-making and potentially supercharging deterrence capabilities. Countries can avoid hostility by strengthening strongholds, moulding foe ideologies, and emphasising proactivity. The planned uncertainties and outcomes associated with defence actions act as strong restraints, ensuring orderliness overcomes even in a tense world. Although AI has undoubtedly provided comfort to nations and advantages to the military, it is crucial to recognise that there are still potential dangers and casualties involved in its deployment.

The introduction of AI capabilities in conflict may lead to misinterpretation and misperception, potentially undermining deterrence (Boulanin & Verbruggen, 2017). Different countries have varying ethical and normative limitations on AI use, which can impact deterrence dynamics.



The need for international cooperation and governance frameworks to prevent the misuse of AI in warfare is increasingly recognized. Recent studies have explored the implications of AI on deterrence theory, highlighting the need for a nuanced understanding of AI's role in modern warfare. Researchers emphasize the importance of developing AI governance frameworks and international cooperation to mitigate potential risks.

However, the future of deterrence in the age of AI and autonomy is uncertain. According to Wilner (2022), AI may provide situational awareness that dips into predictive analytics, supercharging a defender's pre-emptive and deterrent capabilities. Still, the introduction and use of AI in conflict may be prone to misinterpretation and misperception, potentially undermining deterrence.

4. Artificial Intelligence and Global Security

Deterrence theory has long contended that states develop strong military capabilities to deter adversaries from going to war. However, introducing AI into the military equation makes this equation more complicated. Although AI technologies are contended to promote deterrence through enhancing military power, it is essential to consider whether they might make pre-emptive strikes more probable. Introducing AI to military policy may lead to more rapid channels for decision-making, which shorten the period available for diplomacy to resolve matters and accelerate war intensification (Horowitz, 2018). AI-fueled military capabilities can upturn traditional deterrence paradigms, destabilising existing arrangements and increasing inadvertent escalation threats (Wilner & Babb, 2020). AI's unpredictability of decisions could introduce novel weaknesses to military policy, making deterrence unstable (Wilner, 2022). The implication is that as AI compresses the timeframe for diplomatic backchannels, crises are more likely to spiral out of control without adequate mediation, thus destabilising long-term peace. It might also trigger an automated preemptive strike, indicating the risk of unintended escalation like the Cold War scenario but with much less decision time due to AI integration (Wilner & Babb, 2020; Wilner, 2022).

Jack Shanahan, head of the Joint Artificial Intelligence Center, stated that AI will significantly benefit the United States and its coalition partners. AI is set to make and improve judgment in combat operations more effective, ultimately reducing the likelihood of death and collateral damage (Vergun, 2019). Vladimir Putin, the President of Russia, gave a clear vision of AI's potential effect. In a September 2017 address to students, Putin stressed how crucial artificial intelligence is for posterity and mankind, particularly Russia. He was adamant that the country that leads in AI will have a decisive global impact (Military Africa, 2023). However, Scharre (2019) states that weapons equipped with AI can enhance military effectiveness but pose monstrous risks because there will not be any responsibility and an inclination towards escalation.



Ashby (2023) observed that machine intelligence could advance diplomatic initiatives via UAVs to oversee dispute regions, enforce truce accords, and reduce risks to peace agent troops. Furthermore, AI can examine violent and orbital imagery to supervise arms reduction efforts and spot atrocities, notably when integrated with surface data collection. The research determined that while innovation alone is not a panacea for achieving peace, it offers valuable potential as a tool in the broader quest for security. AI enables defence agencies to track, analyse, and detect likely dangers more efficiently. Automated tracking systems can detect suspicious activities and potential risks. Facial recognition technology powered by AI assists law enforcement in identifying criminals and terrorists (Chidozie et al., 2024).

Furthermore, AI has the potential to develop cutting-edge weapon systems, including unmanned robotic vehicles, which provide significant defence advantages by performing dangerous and complex tasks beyond human capability, making them crucial. The U.S. president has authorised the use of UAVs in the Middle Eastern and South Asian region consisting of countries like Pakistan, Afghanistan and Iraq for both combat and surveillance purposes (Aisedion & Osimen, 2023). The government of the US has leveraged this technological advancement to target and eliminate prominent Taliban and al-Qaeda leaders in the fight against terrorism, aiming to enhance global order. For example, on January 3, 2020, the U.S. conducted a drone strike against Iranian military leader Soleimani in Iraq, particularly near Baghdad International Airport (BBC, 2020). AI has been demonstrated as a valuable treasure to the armed forces, proficiently reducing the need for human resources and minimising casualties (Rashid et al., 2023).

Consider a scenario where the utilisation of AI could have potentially averted fatalities. In June 2005, U.S. Special Forces were engaged in a classified operation in Afghan territory to find the Taliban leader Osama Bin Laden. The team, positioned on a mountain, was discovered by local goatherders, leading to their exposure and subsequent deaths, as well as the loss of the rescue helicopter carrying 16 soldiers (Sandel, 2010). Had the U.S. forces employed an attack UAV relying on the information they had previously gathered, they might have stopped the deaths of these combatants and the residents of a Pashtun village, who had safeguarded the sole survivor from the Taliban until his extraction. This mission, which gained significant attention, demonstrates how AI-driven tools might have altered the result.

During Operation Desert Storm of 1990–91, the US utilised an application program termed the Adaptive Analysis and Adjustment Tool to enhance organising and methodical planning for moving supplies and manpower (Bienkowski, 1995). Whereas some argue that intelligent munitions can improve accuracy and lessen unintended damage, others contend that AI alone cannot guarantee peace and security because of the risks of substantial defects and moral concerns surrounding optimisation decisions (Ashby, 2023).



Intelligent systems hold great promise and present considerable ethical AI-powered systems with transformative potential in the social sector. However, they pose significant challenges to civil liberties, even when deployed with sincere purpose (Winfield, 2019; Pizzi et al., 2020). For example, the U.S. drone strike aimed at eliminating the warlord Soleimani resulted in the deaths of nine people, indicating that even AI's targeted precision cannot always confine the impact to the intended individual and can affect a broader area (BBC, 2020).

Proponents like Geoffrey Hinton and Sam Altman contend that strong AI could significantly impact global governance or present severe existential risks worldwide (Coeckelbergh, 2024). In the Israel-Hamas conflict of May 2021, the Israeli Defense Forces (IDF) employed an AI targeting system called “the Gospel,” which had notable repercussions. Unfortunately, this system's rapid production of target data caused considerable harm to peaceful citizens. The lack of transparency regarding the algorithmic decisions inspired by the Scripture further intensified the harm to unarmed individuals (The Guardian, 2023).

In some battlefield scenarios, autonomous systems have already surpassed human capabilities, handling tasks such as calculating flight paths and intercepting missiles at speeds beyond human ability. While these systems provide advantages, they also introduce risks, such as challenges in managing escalation. The increasing proliferation of autonomous weapons, particularly pilotless systems, is an emerging challenge due to their affordability and absence of countermeasures (Puscas, 2023). However, Lavazza and Farina (2023) opine that one practical way of controlling the technological advancement of Autonomous Weapon Systems (AWS) is by setting up 'war juries' made up of representative citizens to oversee and make decisions regarding their country's military actions and the imposition of limits on their use.

The concept of “sanitised warfare” emerges when technological precision reduces the human cost of conflict. While proponents argue that this minimises casualties and makes military operations more efficient, scholars such as Müller (2020) caution that reducing human involvement may lower the threshold for initiating conflict. Leaders might be more willing to authorise military action if they perceive that the direct risks to their personnel—and, by extension, the public—are diminished.

This sanitised view, however, can lead to a dangerous normalisation of conflict. Automated systems, by potentially depersonalising warfare, might erode ethical constraints and increase the frequency of military interventions. The risk is not only strategic but moral: delegating critical decisions to algorithms challenges long-standing norms of accountability and human judgment (Scharre, 2019).

The integration of AI into military operations has significant implications for global security. According to Boulanin and Verbruggen (2017), the development of autonomy in weapon systems raises concerns about the potential for unintended consequences and the need for international governance frameworks.



5. Regulatory and Governance Challenges

The international community has attempted to address these challenges through regulatory mechanisms such as the Convention on Certain Conventional Weapons (CCW). Nevertheless, as Sauer (2016) asserts, existing frameworks have struggled to keep pace with rapid technological advancements. This regulatory gap is especially problematic given that AI-enabled systems can be deployed unilaterally, creating a scenario where technological progress outstrips legal oversight.

In this context, the slow evolution of international law creates legal ambiguities and compliance challenges. Without robust verification and enforcement mechanisms, states might exploit regulatory loopholes, potentially destabilising international security and undermining the deterrence such regulations are meant to reinforce (Humble, 2023).

The convergence of these scholarly perspectives suggests that while AI may be leveraged to enhance military capabilities, its introduction into warfare also entails significant risks. At the strategic level, the velocity of AI-driven decision-making may destabilise traditional deterrence models and reduce the likelihood of diplomatic resolution. Ethically, the delegation of lethal decision-making to machines raises fundamental questions of accountability and the dehumanisation of war. Legally, current regulatory systems are insufficient to match the pace of technological evolution, forming a risky loophole that can be exploited.

6. Recommendations and Conclusion

Against the background of the complex ethical, legal, and security concerns outlined above, this study recommends two interlinked recommendations to ensure that the benefits of AI weapons systems are not at the expense of global stability and humanitarian standards.

- i. Due to the rapid rate of technological development in AI and autonomous systems, existing international legal frameworks have been inadequate in governing their uptake. The report recommends the creation of dynamic and future-oriented legal instruments that will be capable of keeping pace with technology development. Such instruments should allow for timely updating of emergent technologies into legal provisions and ensure full-fledged compliance and enforcement tracking. By uniting multidisciplinary insights from technology, international law, and ethics, legal frameworks can establish well-defined guidelines for acceptable behaviour, avoiding hazards such as unintended escalation and illicit targeting. Such mechanisms should further be established by multilateral agreement so that all concerned actors, state actors or international institutions—have a stake in forming the regulatory framework (Sauer, 2021; Horowitz, 2020).
- ii. In addition to legal changes, a firm ethical framework that governs the use of AI within military contexts must be formed. This study recommends the formation of autonomous monitoring bodies, such as "war juries," made up of experts in ethics, international humanitarian law,



military strategy, and technology. These institutions would emphasise evaluating the deployment of AI-based systems, ensuring that such systems' decision-making procedures are consistent with humanitarian national and international codes. This evaluation would be the badly needed counterbalance to the rapid decision-making characteristic of AI warfare, preventing the undermining of moral responsibility and reducing the risk of non-combatant collateral damage. Implementing these ethical principles and monitoring systems will enshrine accountability, foster public confidence, and ultimately guarantee that the integration of AI in the conduct of military actions will not undermine the intrinsic values of human dignity and the rule of law (Müller & Metzinger, 2022; Scharre, 2018).

Conclusion

Integrating AI-powered weapons systems into modern warfare presents a complex interplay between enhanced strategic capabilities and significant ethical, legal, and security challenges. Deterrence theory can be applied to the context of AI in modern warfare. While AI can improve operational efficiency and reduce casualties, it also risks precipitating unintended escalation, eroding legal safeguards, and lowering the threshold for conflict. Though, AI can enhance deterrence capabilities by denial and punishment, but also raises concerns about unintended consequences and the need for international governance frameworks. By promoting interdisciplinary dialogue and proactive governance, the international community can strive to harness AI's benefits while mitigating its risks, ultimately advancing a more stable and ethically sound global society. However, Future research and policy initiatives is necessary to fully understand the implications of AI on deterrence theory and practice and also, to bridge the gap between rapid technological innovation and the slower pace of regulatory adaptation, ensuring that AI contributes to global security rather than undermining it.

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Conflict of Interest

None

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References

- [1] Aisedion, R., & abasil, G. (2023). Modern War Technologies and Global Peace and Security. *Canadian Social Science*, 138–145.
- [2] Alius. (2018, January 30). *A Brief History of Modern Warfare Technology: From Gunpowder to Drones*. Retrieved April 16, 2024, from <https://www.technology.org/2018/01/30/a-brief-history-of-modern-warfare-technology-from-gunpowder-to-drones/>
- [3] Altmann, J. (2013). Arms control for armed uninhabited vehicles: an ethical issue. *Ethics and Information Technology*, 15, 137-152.
- [4] Alvarez, J. (2021). *Autonomous Weapons Systems: The Accountability Conundrum*. Opiniones Técnicas sobre Temas de Relevancia Nacional. <https://scm.oas.org/pdfs/2023/Accountability.pdf>
- [5] Anyoha, R. (2017, August 28). *The History of Artificial Intelligence*. Retrieved June 27, 2024, from [sitn.hms.harvard.edu](https://sitn.hms.harvard.edu/flash/2017/history-artificial-intelligence/): <https://sitn.hms.harvard.edu/flash/2017/history-artificial-intelligence/>
- [6] Araya, D., & King, M. (2022). *The Impact of Artificial Intelligence on Military Defence and Security*. Waterloo: Centre for International Governance Innovation.
- [7] Ashby, H. (2023). *A Role for AI in Peacebuilding*. Washington, D.C: United States Institute of Peace.
- [8] Baker, J. E. (2018). *Artificial intelligence and national security law: A dangerous nonchalance*. Cambridge: Starr Forum.
- [9] BBC. (2020, July 9). *Qasem Soleimani: US strike on Iran general was unlawful, UN expert says*. Retrieved from [www.bbc.com](https://www.bbc.com/news/world-middle-east-53345885): <https://www.bbc.com/news/world-middle-east-53345885>
- [10] Bendett, S. (2023, 20 July). *Roles and Implications of AI in the Russian-Ukrainian Conflict*. Retrieved May 18, 2024, from <https://www.russiamatters.org/analysis/roles-and-implications-ai-russian-ukrainian-conflict>
- [11] Bhatt, C., & Bharadwaj, T. (2024). *Understanding The Global Debate on Lethal Autonomous Weapons Systems: An Indian perspective*. Carnegie Endowment for International Peace. <https://carnegieendowment.org/research/2024/08/understanding-the-global-debate-on-lethal-autonomous-weapons-systems-an-indian-perspective?lang=en>
- [12] Bienkowski, M. (1995). Demonstrating the operational feasibility of new technologies: the ARPI IFDs. *IEEE Expert*, 27-33.



- [13] Blanchard, A., Novelli, C., Floridi, L., & Taddeo, M. (2023). A Risk-Based Regulatory Approach to Autonomous Weapon Systems.
- [14] Bostrom, N. (2014). *Superintelligence: Paths, Dangers, Strategies*. Oxford: Oxford University Press.
- [15] Boulanin, V., & Verbruggen, M. (2017). International Peace Research Institute.
- [16] Caruso, B. C. (2024, December 12). The risks of artificial intelligence in weapons design. Harvard Medical School. <https://hms.harvard.edu/news/risks-artificial-intelligence-weapons-design>
- [17] Chidozie, F. C., Osimen, G. U., Newo, O. A., & Bhadmus, J. (2024). Domesticating the Global War on Terrorism in West Africa: Implications for Sub-Regional Security. *Revista de Gestão Social e Ambiental*, 18(7), e05748-e05748. <https://doi.org/10.24857/rgsa.v18n7-131>
- [18] Chukwudi, C. E., Osimen, G. U., Dele-Dada, M., & Ahmed, 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* 11(1), 81-108. DOI: <https://doi.org/10.31920/2056-5682/2024/v11n1a4>
- [19] Coeckelbergh, M. (2024). The case for global governance of AI: arguments, counter-arguments, and challenges ahead. *AI & Society*, 1-4.
- [20] Cope, A. (2024). When AI Meets the Laws of War. *IE Insights*.. <https://www.ie.edu/insights/articles/when-ai-meets-the-laws-of-war/>
- [21] Council on Foreign Relations. (2023, May 24). What Is Deterrence? Retrieved from <https://education.cfr.org>: <https://education.cfr.org/learn/reading/what-deterrence>
- [22] Cruickshank, I. (2023, July). An AI-Ready Military Workforce. *Joint Force Quarterly* 110, pp. 46-53.
- [23] Currie, C. (2022, May 22). *The Evolution of War: How AI has Changed Military Weaponry and Technology*. Retrieved April 16, 2024, from <https://montreal.ethics.ai/>: <https://montreal.ethics.ai/the-evolution-of-war-how-ai-has-changed-military-weaponry-and-technology/>
- [24] Dahiya, N. (2022). Artificial Intelligence in Modern Warfare. *Jus Corpus Law Journal*. 438-449.
- [25] 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.



- [26] Dohnal. (2025). Legal aspects of the development of weapon systems with artificial intelligence in 2025. *Arrows*. <https://www.arws.cz/news-at-arrows/legal-aspects-of-the-development-of-weapon-systems-with-artificial-intelligence-in-2025>
- [27] Dresch-Langley, B. (2023). The weaponization of artificial intelligence: What the public needs to be aware of. *Frontiers*, 1-6.
- [28] Ekelhof, M. A. (2017). Complications of a Common Language: Why it is so Hard to Talk about Autonomous Weapons. *Journal of Conflict and Security Law*, 22(2), 311–331. <https://doi.org/10.1093/jcsl/krw029>
- [29] Epstein, I. (2022, May 22). *The Evolution of War: How AI has Changed Military Weaponry and Technology*. Retrieved April 16, 2024, from <https://montreal.ethics.ai/the-evolution-of-war-how-ai-has-changed-military-weaponry-and-technology/>
- [30] Etzioni, A., & Etzioni, O. (2017). Pros and Cons of Autonomous Weapons Systems. *Georgetown Journal of International Affairs*, 18(3), 35–43.
- [31] Fontes, R., & Kamminga, J. (2023, March 24). *Ukraine: A Living Lab for AI Warfare*. Retrieved May 18, 2024, from <https://www.nationaldefensemagazine.org/articles/2023/3/24/ukraine-a-living-lab-for-ai-warfare>
- [32] Hammes, T.X (2023, November 2). Autonomous weapons are the moral choice - Atlantic Council. Atlantic Council. <https://www.atlanticcouncil.org/blogs/new-atlanticist/autonomous-weapons-are-the-moral-choice/>
- [33] Hogan. (2021). *Sleepwalking Into A Brave New World: The Implications Of Lethal Autonomous Weapon Systems* [Master Dissertation, Canadian Forces College]. <https://www.cfc.forces.gc.ca/259/290/23/286/Hogan.pdf>
- [34] Humble, K. (2023). Artificial Intelligence, International Law and the Race for Killer Robots in Modern Warfare. In: Završnik, A., Simončič, K. (eds) *Artificial Intelligence, Social Harms and Human Rights. Critical Criminological Perspectives*. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-031-19149-7_3
- [35] Horowitz, M. C. (2016). The Ethics & Morality of Robotic Warfare: Assessing the Debate over Autonomous Weapons. *Daedalus*, 145(4), 25–36. https://doi.org/10.1162/daed_a_00409
- [36] Horowitz, M. (2018). Artificial Intelligence, International Competition, and the Balance of Power (May 2018). *Texas National Security Review*, 1(3), 36–57. <https://doi.org/10.15781/t2639kp49>



- [37]International Committee of the Red Cross (2022). *What You Need to Know About Autonomous Weapons*. <https://www.icrc.org/en/document/what-you-need-know-about-autonomous-weapons>
- [38]Jyothi, A. P., Shankar, A.; Narayan. A. J. R., Bhavya, K., Reddy, SVV. S. M. S., & Yashwanth, A. (2022). AI Methodologies in Upcoming Modern Warfare Systems. *IEEE International Conference on Current Development in Engineering and Technology (CCET)*. DOI: 10.1109/CCET56606.2022.10080014.
- [39]Joshi, N. (2019, February 4). Modern warfare: what an armed conflict in the future could look like. Retrieved from [www.linkedin.com](https://www.linkedin.com/pulse/modern-warfare-what-armed-conflict-future-could-look-like-joshi/): <https://www.linkedin.com/pulse/modern-warfare-what-armed-conflict-future-could-look-like-joshi/>
- [40]Kling, J. (2021). Not Even Close to a (Fair) Fight: Technology and the Future of War. *Philosophical Journal of Conflict and Violence*, 5(1), 1–17.
- [41]Kmentt, A. (2025, January). Geopolitics and the Regulation of Autonomous Weapons Systems. *Arms Control Association*. Retrieved May 16, 2025, from <https://www.armscontrol.org/act/2025-01/features/geopolitics-and-regulation-autonomous-weapons-systems>
- [42]Kulshrestha, S. (2023). AI hallucinations: The game-changer in modern warfare. *Taaza Khabar News*. <https://taazakhabarnews.com/ai-hallucinations-the-game-changer-in-modern-warfare/>
- [43]Kurzweil, R. (2005). *The singularity is near: When humans transcend biology*. Penguin.
- [44]Kurzweil, R. (2012). *How To Create A Mind*. Toronto: The Penguin Group.
- [45]Lahav, E. (2024, February 23). *Will AI Be Used By Terrorists? The New Threat: The Dangers Arising from the Use of Advanced Technologies by Radical Islamic Organizations*. Retrieved May 18, 2024, from <https://idsf.org.il:https://idsf.org.il/en/interviews-en/ai-used-by-terrorists/>
- [46]Lavazza, A., & Farina, M. (2023). Leveraging autonomous weapon systems: realism and humanitarianism in modern warfare. *Technology in Society Elsevier*, vol. 74(C). DOI: 10.1016/j.techsoc.2023.102322
- [47]Lee, E. (2025, February 3). *What are Autonomous Weapon Systems?* The Belfer Center for Science and International Affairs. <https://www.belfercenter.org/what-are-autonomous-weapon-systems>
- [48]Manning, C. (2020, September). *Artificial Intelligence Definitions*. Retrieved May 8, 2024, from <https://hai.stanford.edu:https://hai.stanford.edu/sites/default/files/2020-09/AI-Definitions-HAI.pdf>



- [49]Marwala, T. (2023, July 7). *Militarization of AI Has Severe Implications for Global Security and Warfare*. Retrieved from <https://unu.edu/article/militarization-ai-has-severe-implications-global-security-and-warfare>
- [50]Maxwell, P. (2020). *Artificial Intelligence Is The Future Of Warfare (Just Not In The Way You Think)*. New York: Modern War Institute at West Point.
- [51]Mazarr, M. J. (2018). *Understanding Deterrence*. Santa Monica: RAND Corporation.
- [52]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/>
- [53]Nasu, H. (2021, June 10). *The Kargu-2 Autonomous Attack Drone: Legal & Ethical Dimensions*. Retrieved May 18, 2024, from <https://lieber.westpoint.edu/https://lieber.westpoint.edu/kargu-2-autonomous-attack-drone-legal-ethical/> 140)
- [54]Osimen, G. U., Dele-Dada, M., & Osere, N. J. (2025). The misconstruction of enemy images in war reporting: The insight narratives on Israel-Hamas conflict. *Global Change, Peace & Security*, 1–20. <https://doi.org/10.1080/14781158.2025.2458878>
- [55]Osimen, G.U., Daudu, B., Chidozie, F. (2025). Political Exclusion and the Quest for Self-Determination in Southeastern Nigeria; *African Renaissance*. Vol. 22 (1), pp 169-192. DOI: <https://doi.org/10.31920/2516-5305/2025/22n1a8> 128)
- [56]Osimen, G. U, Newo, M, & Fulani, O. (2024). Artificial Intelligence and Arms Control in Modern Warfare. *Cogent Social Sciences*, 10 (1),2407514. <https://doi.org/10.1080/23311886.2024.2407514>
- [57]Osimen, G. U., Fulani, O. M., Chidozie, F., & Dada, D. O. (2024). The weaponisation of artificial intelligence in modern warfare: Implications for global peace and security. *Research Journal in Advanced Humanities*, 5(3). <http://doi.org/10.58256/g2p9tf63>.
- [58]Osimen, G. U., Daudu, B. O., & Awogu-Maduagwu, E. A. (2023). Nigerianness and Misrepresentations of Names and Signatures: Should the Colonized adopt the English Language-Naming Conventions? *ISVS e-journal*, 10(11), 289-303. <https://doi.org/10.61275/ISVSej-2023-10-11-19>
- [59]Perrin, B. (2025, January 24). Lethal Autonomous Weapons Systems & International Law: Growing momentum towards a new international treaty | *ASIL*. <https://www.asil.org/insights/volume/29/issue/1>
- [60]Pizzi, M., Romanoff, M., & Engelhardt, T. (2020). AI for humanitarian action: Human rights and ethics. *International Review of the Red Cross*, 145-180.



- [61]Puscas, I. (2023). AI and International: *Understanding the Risks and Paving the Path for Confidence Building Measures*. New York: UNIDIR.
- [62]Raden, N. (2023, December 4). AI ethics - Is There A Necessity For The Us To Field Lethal Autonomous Weapon Systems (LAWS)? *Diginomica*. <https://diginomica.com/ai-ethics-there-necessity-us-field-lethal-autonomous-weapon-systems-laws>
- [63]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.
- [64]Rathour, M. (2023). Autonomous weapons and just war theory. *International Philosophical Quarterly*, 63(1), 57–70. <https://doi.org/10.5840/ipq20231114215>
- [65]Rickli, J-M., & Mantellassi, F. (2024). The War in Ukraine: Reality Check for Emerging Technologies and the Future of Warfare. Geneva Paper 34/24. *The Geneva Centre for Security Policy (GCSP)*. <https://www.gcsp.ch/publications/war-ukraine-reality-check-emerging-technologies-and-future-warfare>
- [66]Rogin, A., & Zahn, H. (2023, July 9). How militaries are using artificial intelligence on and off the battlefield. Retrieved May 18, 2024, from <https://www.pbs.org>: <https://www.pbs.org/newshour/show/how-militaries-are-using-artificial-intelligence-on-and-off-the-battlefield>.
- [67]Russell, S. J., & Norvig, P. (2010). Artificial intelligence: A modern approach. Pearson.
- [68]Saidi, I. (2022). The Weaponization of Artificial Intelligence in the Military: The Importance of Meaningful Human Control. *MAS Journal of Applied Sciences*, 357-363.
- [69]Sandel, M. J. (2010). *Doing the Right thing*. In M. J. Sandel, *Justice: What's the Right Thing to Do?* (pp. 21-30). New York: Farrar, Straus and Giroux.
- [70]Sauer, F. (2016). Stopping “Killer Robots”: Why Now Is the Time to Ban Autonomous Weapons Systems. *Arms Control Today*, 46(8), 8–13.
- [71]Scharre, P. (2019). *Army of None: Autonomous Weapons and the Future of War*. Norton.
- [72]Scharre, P. (2020, May 19). Are AI-Powered killer robots inevitable? *WIRED*. https://www.wired.com/story/artificial-intelligence-military-robots/?utm_source=chatgpt.com
- [73]Scharre, P. (2024). The Perilous Coming Age of AI Warfare: How to Limit the Threat of Autonomous Weapons. Foreign Affairs. <https://www.foreignaffairs.com/ukraine/perilous-coming-age-ai-warfare#:~:text=By%20Paul%20Scharre&text=Last%20year%2C%20the%20Ukrainian%20drone,attacks%20on%20a%20small%20scale>.



- [74]Seamus, B. H. (2020). Applied Artificial Intelligence in Modern Warfare and National Security Policy. *Hastings Science and Technology Law Journal*, 60-100.
- [75]Sergeev, M. (2024, November 12). Lethal autonomous Weapon Systems (LAWS): accountability, collateral damage, and the inadequacies of international law. *Temple iLIT*. <https://law.temple.edu/ilit/lethal-autonomous-weapon-systems-laws-accountability-collateral-damage-and-the-inadequacies-of-international-law/>
- [76]Sharkey, A. (2018). Autonomous weapons systems, killer robots and human dignity. *Ethics and Information Technology*, 21(2), 75–87. <https://doi.org/10.1007/s10676-018-9494-0>
- [77]Sparrow, R. (2023). A military-philosophical complex: Steven Umbrello: Designed for death: controlling killer robots. Budapest: Trivent Publications, 2022, 221 pp, €44 PB. *Metascience*, 32(3), 421–424.
- [78]The Guardian. (2023, December 1). 'The Gospel': how Israel uses AI to select bombing targets in Gaza. Retrieved May 11, 2024, from <https://www.theguardian.com:https://www.theguardian.com/world/2023/dec/01/the-gospel-how-israel-uses-ai-to-select-bombing-targets>
- [79]Tomlinson, K. D. (2016). An Examination of Deterrence Theory: Where Do We Stand? *Federal Probation*, 33-38.
- [80]Trager, R. F., & Luca, L. M. (2022, May 11). *Killer Robots Are Here—and We Need to Regulate Them*. Retrieved May 16, 2024, from <https://foreignpolicy.com:https://foreignpolicy.com/2022/05/11/killer-robots-lethal-autonomous-weapons-systems-ukraine-libya-regulation/>
- [81]Trumbull, C. (2024, October 28). *Considering a legally binding instrument on autonomous weapons*. Default. <https://www.lawfaremedia.org/article/considering-a-legally-binding-instrument-on-autonomous-weapons>
- [82]Ullah, M., Qureshi, G. M., & Shahid, A. (2023). Robotic Warfare and International Law: Implications for Modern Military. *International Journal of Contemporary Issues in Social Sciences* 2(3), 337-347.
- [83]United Nations Security Council. (2021). *Final report of the Panel of Experts on Libya established pursuant to Security Council resolution 1973 (2011)*. United Nation.
- [84]Verdiesen, I., De Sio, F. S., & Dignum, V. (2020). Accountability and Control over Autonomous Weapon Systems: a framework for comprehensive human oversight. *Minds and Machines*, 31(1), 137–163. <https://doi.org/10.1007/s11023-020-09532-9>



- [85] Vergun, D. (2019, September 24). *AI to Give U.S. Battlefield Advantages, General Says*. Retrieved from <https://www.defense.gov>: <https://www.defense.gov/News/News-Stories/Article/Article/1969575/ai-to-give-us-battlefield-advantages-general-says/>
- [86] Vincent, M. (2020). Ethics of Artificial Intelligence and Robotics. In *Stanford Encyclopedia of Philosophy*. <https://plato.stanford.edu/entries/ethics-ai/>
- [87] Wilner, A. (2022). AI and the Future of Deterrence: Promises and Pitfalls. *Centre for International Governance Innovation*. https://www.cigionline.org/articles/ai-and-the-future-of-deterrence-promises-and-pitfalls/?utm_source=chatgpt.com
- [88] Wilner, A., & Babb, C. (2020). New technologies and deterrence: artificial intelligence and adversarial behaviour. In *NL ARMS* (pp. 401–417). https://doi.org/10.1007/978-94-6265-419-8_21
- [89] Wilner, A. (2022). AI and the Future of Deterrence: Promises and Pitfalls. *Centre for International Governance Innovation*.
- [90] Winfield, A. F. (2019). Ethical standards in Robotics and AI. *Nature Electronics* 2(2), 46-48.
- [91] Zhang, B. (2021). *Public Opinion Toward Artificial Intelligence*. Charlottesville,: Center for Open Science.