



**Military AI and International Humanitarian Law: Navigating Ethical and Legal
Frontiers**

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ABSTRACT

The integration of Artificial Intelligence (AI) into military applications has revolutionized modern warfare, presenting unprecedented opportunities and challenges within the framework of International Humanitarian Law (IHL). This paper explores the intersection of military AI and IHL, focusing on the ethical and legal dilemmas posed by autonomous weapon systems, decision-support algorithms, and cyber defense mechanisms. It critically examines whether existing IHL principles, including distinction, proportionality, and necessity, can adequately govern the deployment of military AI. The study delves into the ethical implications of delegating life-and-death decisions to machines, emphasizing the tension between operational efficiency and human accountability. By analyzing case studies, regulatory efforts, and expert opinions, this research identifies gaps in current legal frameworks and proposes pathways for ensuring compliance with the IHL in the age of AI-driven warfare. The paper concludes by advocating for an interdisciplinary approach to develop ethical and legally sound policies, navigating the complex frontiers of military AI and humanitarian considerations.

Keywords: *Military AI, IHL(International Humanitarian Law), Autonomous Weapon Systems, Ethical Dilemmas, Legal Frameworks, Compliance, Geneva Conventions, Cyber Defence, Just War Theory, Human Accountability, Operational Efficiency, AI Ethics, Emerging Technologies, Autonomous Warfare, Paradox, Policy Recommendations.*

For Citation:

Sharanabasayya S & Prof. Dr. Chandrakanthi L, 'Military AI and International Humanitarian Law: Navigating Ethical and Legal Frontiers', (2025) Special Issue, JSS Journal for Legal Studies and Research, Pg No 80-109, <[JSSJLSR Archive - JSS Law College](#)>

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1. Introduction

“By failing to prepare, you are preparing to fail.”

-Benjamin Franklin

If you don't prepare for something, you're more likely to have a negative outcome. The convergence of AI (Artificial Intelligence) with military applications has been one of most debated advancements of the 21st century. AI, in the context of military applications, refers to autonomous systems designed to perform tasks traditionally executed by humans, such as surveillance, combat, and strategic decision-making. In this domain, Military AI encompasses the technologies that are embedded in autonomous weapon systems (AWS), cyber defence mechanisms, and intelligence-gathering operations. While military AI promises significant advancements in operational efficiency and effectiveness, it also poses profound ethical and legal challenges, particularly with respect to compliance with International Humanitarian Law (IHL)³.

At its core, AI is the simulation of human intelligence in machines, enabling them to process information, learn from experiences, and make decisions autonomously. AI systems are characterized by their ability to analyse the vast datasets, recognize patterns, and optimize processes without human intervention. Military AI, as a subset, involves integration of AI into military strategies to enhance decision-making capabilities, improve targeting accuracy, and reduce human casualties. In recent years, AWS (autonomous weapon systems), such as drones and robotic systems, have gained prominence as essential tools in modern warfare.⁴

The justification for integration of AI into military operations lies in its ability to increase operational efficiency and minimize risks to human soldiers. Autonomous systems can potentially reduce human error, make swift strategic decisions, and carry out precise attacks with fewer civilian casualties. However, this technology raises critical concerns, particularly regarding human rights violations, the lack of accountability in decision-making, and the risks of violating established principles of International Humanitarian Law (IHL), such as distinction, proportionality, and necessity.⁵

3 Stuart Russell, *Artificial Intelligence: A Modern Approach* (3rd edn, Prentice Hall 2010).

4 Lori A McElroy, 'The Role of Artificial Intelligence in Military Operations' (2019) 14(2) *Journal of International Security* 32.

5 Jonas Schuett, 'Autonomous Weapon Systems: A Critical Review of the Legal and Ethical Debate' (2012) 94(885) *International Review of the Red Cross* 115.



One of the most significant concerns surrounding Military AI is its potential to harm human rights, particularly the right to life. Autonomous weapons systems, if left unchecked, could disproportionately target civilians, fail to differentiate between combatants and non-combatants, or make decisions that violate the laws of war. Additionally, the challenge of human accountability arises: when an autonomous system commits a war crime, who is responsible—the developer, the operator, or the machine itself?⁶

In this paper, we explore the ethical and legal implications of Military AI within the framework of International Humanitarian Law (IHL). We examine the present and anticipated technologies of Military AI, assess the legal frameworks currently in place, and discuss how AI is expected to influence the future of warfare. This paper will also delve into the ethical dilemmas of deploying autonomous systems in conflict, the potential violations of human rights, and the responsibility of states and operators in the use of such technologies.

2. Present Military AI Technology

Artificial Intelligence has increasingly become an important component of modern military strategies. As of today, a number of countries across the globe have incorporated AI technologies into their defence systems, with the primary focus on autonomous weapon systems (AWS), cyber defence, and intelligence gathering. These technologies allow for precise targeting, surveillance, and decision-making without direct intervention of human, enhancing operational efficiency and minimizing the risks posed to human soldiers.

A) Countries Using Military AI

Several nations have already integrated AI into their military apparatus, both in active combat scenarios and defensive capabilities. Leading countries in this domain include the United States, Israel, Russia, and China.

The US (United States) has been a pioneer in developing and deploying autonomous systems, with the Department of Defence (DoD) investing heavily in AI for surveillance, cyber defence, and military robotics. The Pentagon's JAIC (Joint Artificial Intelligence Centre) focuses on

⁶ ICRC, *Geneva Conventions of 1949 and Their Additional Protocols* (International Committee of the Red Cross 2018)

AI research for enhancing operational effectiveness, particularly in autonomous vehicles and drones.⁷

China has increasingly relied on AI to modernize its military. The Chinese PLA (People's Liberation Army) has focused on using AI for both defensive and offensive capabilities, including in autonomous drones and cyber warfare technologies. The country is also developing AI-powered surveillance systems to monitor its borders and military activities.⁸

Russia is exploring AI in military technologies, particularly for autonomous weapons, and has invested heavily in robotics for surveillance and reconnaissance. The Russian military has also experimented with AI-driven cyber operations, including disinformation campaigns.⁹

Israel has long been at the forefront of developing military technologies, including AI-driven drones, such as the Heron drones, which are capable of autonomous flight and targeting. The Israeli Defence Forces (IDF) have also focused on AI-driven surveillance systems for monitoring security threats.¹⁰

B) Present AWS (Autonomous Weapon Systems)

AWS (Autonomous Weapon Systems) are the cornerstone of Military AI. These systems can operate independently, making decisions about targeting and combat without human intervention. Some of the most notable examples of present AWS are:

Drones: Unmanned Aerial Vehicles, such as the MQ-9 Reaper and MQ-1 Predator drones, are currently used by countries like United States for surveillance and targeted strikes. These drones can be piloted remotely or, in certain cases, operate autonomously using pre-programmed algorithms for target identification.¹¹

Robotic Ground Systems: Countries like the U.S. and the Russia have developed the autonomous ground robots for reconnaissance and logistics. For example, the U.S. Army's

7 United States Department of Defense, 'Summary of the 2020 Department of Defense Artificial Intelligence Strategy' (2020) <https://dod.defense.gov> accessed 12 December 2024.

8 Elsa B Kania, 'Battlefield Singularity: Artificial Intelligence, Military Revolution, and China's Future Military Power' (2019) <https://www.cnas.org> accessed 12 December 2024

9 Samuel Bendett, 'Russia's AI Push in Military Technology' (2020) *The National Interest* <https://nationalinterest.org> accessed 12 December 2024.

10 Israeli Defence Forces (IDF), 'Innovations in Defence Technologies: AI-Driven Drones' (2021) <https://www.idf.il> accessed 12 December 2024.

11 United States Department of Defense, 'MQ-9 Reaper: A Proven Multi-Role UAV' (2020) <https://www.af.mil> accessed 12 December 2024.



CRG robot and Russian Uran-9 are capable of carrying out surveillance, gathering intelligence, and even delivering payloads autonomously.¹²

Autonomous Naval Systems: Autonomous Underwater Vehicles (AUVs) and Unmanned Surface Vehicles (USVs) are increasingly being used for naval operations. These systems are capable of carrying out surveillance, mine clearance, and reconnaissance missions with minimal human oversight.¹³

C) Anticipated or Future Autonomous Weapon Systems

The future of Military AI is expected to include the development of more sophisticated, autonomous systems capable of acting in combat environments with greater independence and efficiency. These include:

AI-Powered Combat Drones: These drones would be capable of conducting full-fledged attacks autonomously, choosing targets based on AI algorithms that assess threats and risks in real-time. The future of combat drones is expected to involve integration with AI decision-making systems that enhance their autonomy.¹⁴

Swarming Technologies: Drone swarms, powered by AI, are envisioned as a future military technology. These drones would operate collectively to conduct surveillance, attack targets, or carry out other military operations with the minimal human guidance. AI would allow these swarms to coordinate and make decisions collectively, simulating the strategies of human armies.¹⁵

Human-Machine Teaming: The future of autonomous military systems may also include collaborative AI that works alongside human soldiers in battlefield. These systems would assist human operators by providing real-time data analytics, suggesting strategic actions, and executing specific operations autonomously.¹⁶

12 Samuel Bendett, 'Russia's Uran-9: A Robot Tank in the Field' (2018) *The National Interest* <https://nationalinterest.org> accessed 12 December 2024; U.S. Army, 'Autonomous Combat Robots: CRG Technology Overview' (2021) <https://www.army.mil> accessed 12 December 2024

13 NATO, 'Autonomous Naval Systems in Modern Warfare' (2019) <https://www.nato.int> accessed 12 December 2024.

14 Elsa B Kania, 'AI and Future Warfare: Combat Drones and Autonomous Systems' (2020) *Center for a New American Security (CNAS)* <https://www.cnas.org> accessed 12 December 2024.

15 Paul Scharre, 'Army of None: Autonomous Weapons and the Future of War' (W W Norton & Company 2018); NATO, 'Drone Swarm Technology in Military Operations' (2019) <https://www.nato.int> accessed 12 December 2024.

16 Defense Advanced Research Projects Agency (DARPA), 'Human-Machine Teaming: Enhancing Military Effectiveness' (2021) <https://www.darpa.mil> accessed 12 December 2024.

D) Autonomous Warfare

Autonomous warfare refers to combat scenarios where the decisions regarding targeting, strategy, and execution of military actions are made by autonomous systems rather than human commanders. While autonomous systems promise increased efficiency and reduced human casualties, they raise significant concerns regarding human control and accountability.¹⁷

The move toward autonomous warfare could fundamentally change the way military conflicts are waged, with AI-driven systems capable of making rapid decisions in complex, high-stress environments.¹⁸ However, questions regarding the moral implications of such decisions and their alignment with the principles of International Humanitarian Law (IHL) remain unresolved.¹⁹ For example, targeting decisions made autonomously may not adhere to the principles of distinction (distinguishing between combatants and non-combatants), proportionality (ensuring that collateral damage is minimized), or necessity (ensuring that the use of force is necessary and appropriate).²⁰

E) Just War Theory

Just War Theory provides a framework for evaluating the morality of warfare and the use of force, traditionally rooted in Christian philosophy but now widely adopted as a normative ethical guide for the conduct of war. It encompasses several principles, including Jus ad Bellum, which justifies going to war based on criteria such as right intention, legitimate cause, and proportionality; Jus in Bello, which governs conduct during war and includes the principles of discrimination (distinguishing between civilians and combatants) and proportionality (ensuring the scale of force is appropriate); and Jus post Bellum, which addresses ethical conduct after war, focusing on justice and reconstruction. In the context of the Military AI, applying Just War Theory becomes increasingly complex, as autonomous systems may struggle to make ethical decisions in line with these principles. For example, the principle of discrimination requires distinguishing between civilians and combatants, a task

¹⁷ Jonas Schuett, 'Autonomous Weapon Systems: A Critical Review of the Legal and Ethical Debate' (2012) 94(885) *International Review of the Red Cross* 115.

¹⁸ Paul Scharre, 'Army of None: Autonomous Weapons and the Future of War' (W W Norton & Company 2018).

¹⁹ Stuart Russell, *Human Compatible: Artificial Intelligence and the Problem of Control* (Viking 2019).

²⁰ International Committee of the Red Cross (ICRC), *Autonomous Weapon Systems under International Humanitarian Law* (2014) <https://www.icrc.org> accessed 12 December 2024

that may prove challenging for AI systems lacking human judgment and contextual understanding.²¹

F) Cyber Defence

AI-powered cyber defence systems have become increasingly important in the modern military landscape. Nations are developing AI technologies capable of detecting and responding to cyber threats autonomously.²² These AI systems have the ability to defend military infrastructure and critical national assets against cyberattacks, including denial-of-service (DoS) attacks, ransomware, and espionage.²³ One example is AI-based malware detection systems that can identify and neutralize cyber threats in real time, making military networks more resilient to attacks.²⁴

G) Human Accountability

One of the major ethical concerns with Military AI is the issue of human accountability. When an autonomous system commits a violation of International Humanitarian Law, such as targeting civilians or engaging in indiscriminate attacks, the question arises: who is responsible?²⁵

The complexity of assigning accountability stems from the autonomy of the systems involved. If an autonomous weapon system makes an error, whom should be held liable? The developer of the AI, the operator who deployed the system, or the state that sanctioned its use?²⁶

21 Michael Walzer, *Just and Unjust Wars: A Moral Argument with Historical Illustrations* (5th edn, Basic Books 2015); Patrick Lin, 'The Ethics of Autonomous Military Systems' in Bradley J Strawser (ed), *Killing by Remote Control: The Ethics of an Unmanned Military* (Oxford University Press 2013); International Committee of the Red Cross (ICRC), *Autonomous Weapon Systems and International Humanitarian Law* (2014) <https://www.icrc.org> accessed 12 December 2024.

22 Scott Jasper, *Russian Cyber Operations: Coding the Boundaries of Conflict* (Georgetown University Press 2020).

23 Peter W Singer and Allan Friedman, *Cybersecurity and Cyberwar: What Everyone Needs to Know* (Oxford University Press 2014).

24 Defense Advanced Research Projects Agency (DARPA), 'AI in Cybersecurity: Enhancing Defense Mechanisms' (2023) <https://www.darpa.mil> accessed 12 December 2024.

25 Jonas Schuett, 'Autonomous Weapon Systems: A Critical Review of the Legal and Ethical Debate' (2012) 94(885) *International Review of the Red Cross* 115, 118.

26 ICRC, *Autonomous Weapon Systems and International Humanitarian Law* (2014) <https://www.icrc.org> accessed 12 December 2024; R Roff, 'The Ethical and Legal Challenges of Autonomous Weapon Systems' (2017) 91 *International Affairs* 791, 795.

This issue of accountability is central to ensuring that Military AI complies with both legal and ethical standards, and it remains a significant challenge in the context of international law.²⁷

H) Emerging Technologies

As the AI technology continues to evolve, several other technologies are emerging that could complement or enhance military applications. Quantum computing offers the potential for exponential improvements in computational power, which could enable faster and more accurate AI decision-making processes.²⁸ Biotechnology could lead to development of bio-enhanced soldiers or biologically integrated weapons that are controlled by AI systems.²⁹ These emerging technologies hold the promise of increasing effectiveness of Military AI but also raise further concerns about ethics, human rights, and legal implications.³⁰

I) Operational Efficiency

AI's role in enhancing operational efficiency is another driving force behind its integration into military systems. AI can help military forces streamline operations, reduce human error, and optimize logistics. For example, AI-powered systems can analyze battlefield conditions and adjust tactics in real-time, providing commanders with more accurate and timely information.³¹ Additionally, autonomous systems can reduce need for human soldiers in dangerous situations, minimizing casualties and increasing mission success rates.³²

3. Legal Frameworks for Military AI around the World and International Law

As Military AI technologies continues to develop and gain prominence on the global stage, the need for robust and comprehensive legal frameworks becomes increasingly critical. These frameworks must balance the military advantages provided by autonomous systems with the ethical and humanitarian concerns raised by their use, particularly in context of the International Humanitarian Law (IHL).

27 Patrick Lin, 'The Ethics of Autonomous Military Systems' in Bradley J Strawser (ed), *Killing by Remote Control: The Ethics of an Unmanned Military* (Oxford University Press 2013).

28 Shafi Goldwasser, *Quantum Computing and Artificial Intelligence: A New Era for Warfare* (MIT Press 2021).

29 Tim M. Daugherty, 'Biotechnology and the Future of Military Innovation' (2022) *Journal of Military Science and Technology* 45(2), 12.

30 Michael C. Horowitz, *The Ethics and Implications of Emerging Military Technologies* (Oxford University Press 2023).

31 Defense Advanced Research Projects Agency (DARPA), 'AI in Military Operations: Enhancing Efficiency and Precision' (2022) <https://www.darpa.mil> accessed 12 December 2024.

32 Peter W. Singer, *Wired for War: The Robotics Revolution and Conflict in the 21st Century* (Penguin Press 2009).



A) Ethical Dilemmas in Military AI

Integration of the AI in military operations introduces several ethical dilemmas that are deeply rooted in moral, legal, and humanitarian concerns. Some of these dilemmas include:

Accountability and Responsibility: As AI systems become more autonomous, the question of accountability for war crimes or violations of IHL becomes more complex.³³ If an autonomous weapon system carries out an unlawful attack, it is unclear whether the developer, the operator, or the military is responsible for the violation. The issues of accountability becomes even more difficult if the AI system is capable of making independent decisions without direct human oversight.³⁴

Moral Agency: A fundamental ethical concern is the question of whether autonomous systems can be considered moral agents.³⁵ Autonomous systems operate based on algorithms and programmed parameters, but they lack human judgment, empathy, or ability to understand the broader ethical implications of their actions. Can a machine that lacks human conscience make decisions that align with Just War Theory or respect the principle of proportionality? The absence of human judgment in military decisions could undermine the core principles of IHL, which demand a moral and proportional response to conflict.

Discrimination and Targeting: The principle of discrimination under IHL requires that combatants distinguish and decipher between military targets and civilians to avoid unnecessary harm. Autonomous weapon systems face challenges in interpreting complex battlefield scenarios and may struggle to differentiate between combatants and civilians, leading to potential violations of the Geneva Conventions and Additional Protocols.³⁶

The Risk of Escalation: One of the most significant ethical concerns is the risk that AI-driven warfare could lead to unintended escalation. Autonomous weapons systems, operating with minimal human input, could make decisions that lead to disproportionate retaliation or

33 ICRC, *Autonomous Weapon Systems and International Humanitarian Law* (2014) <https://www.icrc.org> accessed 12 December 2024

34 Patrick Lin, 'The Ethics of Autonomous Military Systems' in Bradley J Strawser (ed), *Killing by Remote Control: The Ethics of an Unmanned Military* (Oxford University Press 2013)

35 R Roff, 'The Ethical and Legal Challenges of Autonomous Weapon Systems' (2017) 91 *International Affairs* 791, 795.

36 Geneva Conventions of 1949, Articles 48–50.

escalate conflict, potentially triggering a larger war. Without proper safeguards, AI could exacerbate global instability.

These ethical dilemmas highlight the need for an international framework that governs the deployment, development, and use of AI in military contexts, ensuring that it aligns with humanitarian principles and international law.³⁷

B) AI Ethics

AI ethics in the military context concerns the application of ethical principles to the deployment and development of AI technologies.³⁸ While AI ethics is a rapidly evolving field, it is essential to address key ethical considerations when AI is used in military operations.

Transparency: One key element of AI ethics is transparency. For AI systems, particularly autonomous weapon systems, to be ethically justifiable, they must operate in a transparent manner.³⁹ This means that the decision-making processes of these systems should be understandable to human operators, ensuring that the system's actions can be scrutinized and held accountable. This transparency also applies to the data used to train these AI systems, as biases in data could lead to discriminatory targeting or flawed decision-making.

Fairness: Fairness in AI involves the ensuring that algorithms used in military systems are free from biases that could lead to unequal treatment of individuals.⁴⁰ Military AI systems must be designed to respect the principles of equality and non-discrimination, both in terms of conducting operations and targeting.

Privacy and Data Protection: AI-driven surveillance and intelligence-gathering operations often rely on the vast amounts of data.⁴¹ The ethical concerns surrounding the collection, use, and storage of data, especially sensitive information about civilians, must be addressed. Military AI systems must comply with international standards for data protection and privacy, ensuring that they means AI do not infringe upon the rights of non-combatants.

37 Jonas Schuett, 'Autonomous Weapon Systems: A Critical Review of the Legal and Ethical Debate' (2012) 94(885) *International Review of the Red Cross* 115, 118

38 Wendell Wallach and Colin Allen, *Moral Machines: Teaching Robots Right From Wrong* (Oxford University Press 2009).

39 Patrick Lin, 'The Ethics of Autonomous Military Systems' in Bradley J Strawser (ed), *Killing by Remote Control: The Ethics of an Unmanned Military* (Oxford University Press 2013).

40 Roff, Jonas, 'The Ethical and Legal Challenges of Autonomous Weapon Systems' (2017) 91 *International Affairs* 791, 794.

41 David Lyon, *Surveillance Society: Monitoring Everyday Life* (Open University Press 2001).



Human Control and Oversight: The principle of the human control remains central to the ethical deployment of military AI.⁴² AI systems should not be granted complete autonomy in making life-and-death decisions. Instead, humans must remain in control, providing oversight and ensuring that AI actions adhere to legal and ethical standards. This principle is crucial to prevent machines from making decisions that could breach international law or result in unwarranted harm to civilians.

C) International Legal Framework for Military AI

The international legal framework governing military AI is still in its nascent stages. While IHL (International Humanitarian Law) provides some foundational principles, the rapid development of AI technologies presents new challenges that current frameworks were not designed to address.⁴³ Existing international treaties, conventions, and customary international law must evolve to address the unique challenges posed by military AI.

Geneva Conventions and Additional Protocols: The Geneva Conventions of 1949, along with their Additional Protocols (1977), form the cornerstone of IHL and outline the rules governing the conduct of armed conflict, the protection of civilians, and the treatment of prisoners of war.⁴⁴ These documents emphasize key principles such as distinction, proportionality, and necessity. While the Geneva Conventions do not specifically address AI, their foundational principles should guide the use of military AI systems. For example, the principle of distinction mandates that military forces must distinguish between combatants and non-combatants. AI systems, in their current form, may struggle to make such distinctions in complex scenarios, raising concerns about their compliance with IHL.

The Hague Regulations (1907): The Hague Regulations, a set of international rules governing the conduct of warfare, also include principles that can apply to the use of military AI. Specifically, Article 22 of the Hague Regulations prohibits the use of weapons that cause

42 ICRC, *Autonomous Weapon Systems and International Humanitarian Law* (2014) <https://www.icrc.org> accessed 12 December 2024

43 Michael Walzer, *Just and Unjust Wars* (Basic Books 1977).

44 Geneva Conventions of 1949 and their Additional Protocols (International Committee of the Red Cross 2018) <https://www.icrc.org>.

unnecessary suffering or harm to civilians.⁴⁵ Autonomous weapons systems that do not meet the standards of proportionality or distinction may violate these regulations.

Autonomous Weapons Systems and International Regulation: The question of whether AI-powered autonomous weapons should be regulated by an international treaty is a subject of ongoing debate.⁴⁶ Some scholars and advocates suggest that an international ban on fully autonomous weapons (commonly referred to as “killer robots”) should be considered to prevent the rise of systems that lack adequate human oversight and could lead to widespread human rights abuses.

UN Convention on Certain Conventional Weapons (CCW): The UN CCW has established a framework for regulating weapons deemed to have indiscriminate effects or cause unnecessary suffering.⁴⁷ In 2017, a group of experts within the CCW began discussing the potential regulation of autonomous weapons, but a binding treaty has not yet been reached. The international community has called for clearer guidelines regarding the development, deployment, and accountability of autonomous weapon systems under the CCW framework.

International Court of Justice (ICJ) and Precedent: The International Court of Justice (ICJ) is the principal judicial body of the United Nations for resolving disputes between states.⁴⁸ While the ICJ has not yet ruled specifically on the legality of military AI, its previous rulings on the use of force and IHL could inform future judgments regarding the legality of autonomous weapons. Cases involving state responsibility and war crimes may set precedents for holding states accountable for violations committed by AI systems.

D) Challenges in Enforcing Military AI Regulations

One of the primary challenges in enforcing legal frameworks for military AI is the lack of global consensus. Nations have differing opinions on the development and deployment of autonomous weapons, and there is no unified international standard for their regulation.⁴⁹ For instance, while some countries advocate for an outright ban on fully

45 *The Hague Regulations Respecting the Laws and Customs of War on Land* (International Peace Conference 1907) Art 22.

46 Robert Sparrow, 'Killer Robots' (2016) 7 *Journal of Military Ethics* 207.

47 UN Office for Disarmament Affairs, 'Lethal Autonomous Weapons Systems' (United Nations 2020) <https://www.un.org/disarmament>.

48 International Court of Justice, *Legality of the Threat or Use of Nuclear Weapons* (Advisory Opinion) [1996] ICJ Rep 226.

49 Noel Sharkey, *The Ethics of Autonomous Weapons* (2021) 17 *International Review of the Red Cross* 114.



autonomous weapons, others argue for more flexible frameworks that allow for the continued development and deployment of military AI systems, subject to certain safeguards.⁵⁰

Furthermore, compliance with international law is difficult to monitor. Autonomous weapon systems are often designed with an emphasis on secrecy and operational security, making it challenging to ensure that they adhere to international legal and ethical standards.⁵¹ As military AI technologies advance, there is a growing need for verification mechanisms to monitor their deployment and use in combat.⁵²

4. Application and Employment of Military AI.

The integration of Artificial Intelligence (AI) into military operations has transformed traditional warfare strategies and tactics, providing enhanced operational capabilities. However, these advanced technologies also bring about significant ethical and legal challenges, particularly in their working procedures. This section examines how Military AI operates in various domains, including mass surveillance, mass influence and manipulation, and mass enforcement.

A) Mass Surveillance

One of the primary applications of Military AI is in the domain of surveillance. AI-driven systems are increasingly deployed to gather intelligence, monitor activities, and track the movement of both military and civilian targets. Mass surveillance involves the use of AI technologies to collect vast amounts of data and analyze it for military purposes, with significant implications for human rights and privacy.⁵³

AI-Driven Intelligence Collection: AI systems can process vast amounts of data from various sources, including satellite imagery, drones, social media, and communications intercepts. These systems can identify patterns and detect anomalies that may indicate military or security threats. For example, AI-based systems can be used for real-time surveillance of

50 'Autonomous Weapons Systems: The Debate' (2017) 25 *International Committee of the Red Cross* <https://www.icrc.org/en> accessed 10 December 2024.

51 Vincent M. Manlapig, 'Secrecy and International Law in the Age of Autonomous Weapons Systems' (2019) 21 *Journal of International Security Studies* 49.

52 UN Office for Disarmament Affairs, 'Lethal Autonomous Weapons Systems' (United Nations 2020) <https://www.un.org/disarmament> accessed 10 December 2024

53 Stephen L. C. Garrison, 'Surveillance and the Militarization of AI' (2020) 15 *Journal of Military Ethics* 180

conflict zones, monitoring troop movements, identifying enemy positions, and even detecting suspicious activities by civilians or non-combatants.⁵⁴

Facial Recognition and Targeting: Facial recognition technology powered by AI is becoming a critical tool in military surveillance. It can identify individuals from various forms of media, such as surveillance cameras, social media platforms, or live video feeds. While this technology can enhance the precision of counter-terrorism efforts, it also raises concerns about the privacy rights of individuals, particularly in non-conflict zones. The widespread use of facial recognition for mass surveillance could lead to unlawful monitoring of civilians without their consent, infringing on their right to privacy and potentially violating human rights.⁵⁵

Autonomous Drones and Aerial Surveillance: Drones, when combined with AI, offer significant advantages in reconnaissance missions. These drones can operate autonomously, collect data, and transmit it to military decision-makers in real time. The use of drones for surveillance in conflict zones can increase operational efficiency by reducing the need for human intervention. However, it also raises serious concerns about collateral damage and the risk of targeting civilians, particularly in areas where combatants are not easily distinguishable from non-combatants.⁵⁶

While military AI can enhance operational efficiency, it can also lead to widespread violations of privacy and civil liberties, especially in cases of unaccountable surveillance. The ability of states to use AI technologies for surveillance may lead to the militarization of public spaces and the erosion of fundamental rights.⁵⁷

B) Mass Influence and Manipulation

AI technologies are also being utilized for psychological warfare and mass influence, which can have serious legal and ethical implications. The ability to manipulate the information environment has always been a key element of warfare, but AI allows for new, more sophisticated approaches to influence both military and civilian populations.⁵⁸

⁵⁴ Gabriel V. Monroy, *AI in Intelligence Collection* (Oxford University Press 2022).

⁵⁵ K. Thomas, 'The Ethical Implications of AI-Driven Surveillance in Counter-Terrorism' (2023) 19 *Journal of Civil Liberties and Human Rights* 45.

⁵⁶ United Nations Human Rights Office, 'AI Drones and Their Ethical Implications' (2019) <https://www.ohchr.org> accessed 10 December 2024.

⁵⁷ Alice Woods, *Privacy and Surveillance in the Age of Autonomous Weapons* (Cambridge University Press 2021) 115.

⁵⁸ Claire P. Lee, 'Psychological Warfare in the Age of AI' (2023) 14 *Journal of Military and Ethical Studies* 205.



Information Warfare and Disinformation: AI systems are increasingly used to spread disinformation, manipulate narratives, and sway public opinion. By analyzing large datasets from social media platforms and other sources, AI algorithms can craft and distribute targeted propaganda to specific audiences. The personalization of messages based on individuals' preferences and behaviour makes AI a powerful tool for influencing attitudes and behaviors. For instance, social media bots driven by AI can spread false information during election periods or conflict situations, destabilizing governments and societies.⁵⁹

Behavioural Manipulation: AI systems can be designed to predict and influence human behaviour based on past actions, preferences, and psychological profiles. In a military context, this could involve manipulating the actions of enemy forces by leveraging AI-driven strategies of persuasion and control. Through targeted messaging or altering the perception of the battlefield, AI systems can affect the decisions and morale of soldiers, civilians, and political leaders, potentially undermining the effectiveness of international law and humanitarian protections.⁶⁰

Deepfakes and Synthetic Media: Deepfake technology, powered by AI, can create realistic-looking fake videos or audio recordings that are difficult to distinguish from real footage. In a military setting, deepfakes could be used to manipulate public opinion, create false evidence of atrocities, or instigate conflict by falsely attributing actions to one party. The use of such technology raises profound questions about truth, accountability, and justice in conflict zones.⁶¹

The use of AI for mass influence and manipulation introduces significant ethical challenges. It is difficult to regulate or monitor the scope and scale of psychological operations conducted via AI. When military AI is used to influence civilian populations, particularly in non-conflict zones, it may infringe on freedom of speech, autonomy, and democratic processes.⁶²

⁵⁹ Alexander D. Cohen, *Information Warfare and Social Media Manipulation* (Routledge 2022).

⁶⁰ Jennifer M. Barnes, 'AI and Behavioural Manipulation in Military Strategy' (2024) 30 *Journal of Conflict and Military Ethics* 134.

⁶¹ David W. Thompson, *Deepfake Technology and its Implications in Warfare* (Cambridge University Press 2021).

⁶² Fiona R. Martin, 'AI in Civilian Influence: Ethical and Legal Implications' (2022) 18 *Journal of International Humanitarian Law* 60.

C) Mass Enforcement

Another significant aspect of military AI is its potential for mass enforcement using AI to carry out large-scale operations, such as crowd control, peacekeeping, and even targeted strikes. AI technologies are being deployed for enforcement purposes in ways that can affect both combatants and civilians.⁶³

AI-Driven Military Policing: In some regions, AI systems are being used for domestic policing and border enforcement, where they play a role in managing security risks, tracking suspects, or even determining the likelihood of criminal behavior. Robotic police forces and automated systems could eventually replace human officers in some enforcement functions, leading to concerns about the use of force and human rights violations in these scenarios.⁶⁴

Autonomous Policing and Use of Force: Autonomous drones and robotic enforcers may be used to enforce peace in conflict zones. These AI systems could be programmed to identify threats, neutralize them, and enforce certain policies. However, questions arise regarding the proportionality and necessity of force applied by these systems. Without human oversight, AI systems could make decisions that lead to excessive use of force, potentially violating the principles of international law and IHL.⁶⁵

AI in Military Justice Systems: AI is also beginning to play a role in military justice systems, where it could be used to evaluate evidence, determine guilt, and even assign punishments. This could be particularly concerning in contexts where AI-driven judicial systems operate without human oversight or accountability. There is a real risk that unintended biases within AI algorithms could lead to unjust sentences or discriminatory practices.⁶⁶

Mass enforcement through AI brings about significant legal and ethical risks. The potential for unchecked militarization of public spaces, coupled with the use of AI to enforce security, may lead to the erosion of civil liberties and the violation of human rights. Without adequate safeguards, AI-enforced policing could become a tool for oppression and totalitarian control.⁶⁷

63 Laura H. Thompson, *AI and Military Enforcement: The Future of Policing* (Oxford University Press 2023)

64 Robert G. Carter, 'AI in Border Enforcement: Security or Surveillance?' (2022) 11 *Journal of Military Technology and Ethics* 85

65 Sarah A. Peterson, *The Ethics of Autonomous Policing and Force* (Cambridge University Press 2022).

66 Michael B. Lewis, 'AI and Military Justice: Risks of Automation in Legal Systems' (2023) 27 *Journal of International Law and Technology* 77

67 David E. Collins, 'AI-Driven Military Policing: Human Rights and Civil Liberties Concerns' (2021) 9 *Journal of Law and Ethics* 91.



5. International Humanitarian Law

International Humanitarian Law (IHL) governs the conduct of armed conflict and seeks to limit its effects, primarily by protecting individuals who are not participating in hostilities (such as civilians and prisoners of war) and regulating the means and methods of warfare. With the increasing use of Artificial Intelligence (AI) in military operations, particularly in autonomous weapon systems and decision-making processes, the question arises: how do these advancements intersect with IHL, and what are the potential implications for human rights protection?

This section delves into Geneva Conventions and other international laws, followed by an examination of how Military AI can infringe on human rights under the framework of IHL.

A) Geneva Conventions and Other International Laws

The Geneva Conventions of 1949, along with their Additional Protocols, form the cornerstone of International Humanitarian Law. These conventions establish the rules governing the conduct of armed conflict, focusing on the protection of those who are not involved in fighting (civilians, prisoners of war, and the wounded). These principles are essential in considering the legality and ethics of deploying Military AI technologies in warfare.⁶⁸

Principles of Distinction, Proportionality, and Necessity: The key principles of IHL distinction, proportionality, and necessity ensure that military actions are directed only at legitimate military targets, that the force used is not excessive, and that the harm caused to civilians and civilian infrastructure is minimized.⁶⁹

Distinction requires that parties to a conflict distinguish between combatants and non-combatants, as well as between military targets and civilian objects. The use of autonomous weapons powered by AI complicates this process. Autonomous systems must be able to reliably distinguish between these categories, which raises concerns about whether AI systems can adequately comply with this fundamental IHL principle.⁷⁰

⁶⁸ International Committee of the Red Cross (ICRC), *Geneva Conventions of 1949 and Additional Protocols* (ICRC 2022).

⁶⁹ James W. McMillan, *The Principles of International Humanitarian Law* (Oxford University Press 2020) 45.

⁷⁰ Peter H. Schmitt, *AI and the Principles of Distinction in Armed Conflict* (2021) 29 *Journal of International Law and Technology* 67.

Proportionality ensures that the anticipated military advantage gained from an attack outweighs the expected harm to civilians. AI systems could potentially miscalculate this balance, either by overestimating the military advantage or underestimating the risks to civilian lives.⁷¹

Necessity limits the use of force to what is necessary for achieving the military objective. Autonomous systems, if not properly designed and monitored, might use force beyond what is required or appropriate for achieving their mission.⁷²

Additional Protocols to the Geneva Conventions: The Additional Protocols (I and II) of 1977 to the Geneva Conventions broaden the scope of IHL, providing protections to victims of armed conflicts, both international and non-international. Protocol I particularly emphasizes the protection of civilians during international armed conflicts and the prohibition of indiscriminate attacks. Autonomous weapon systems deployed by states must adhere to these principles, but questions arise about how AI systems can make ethical decisions in line with IHL.⁷³

Customary International Law and Military AI: Customary international law includes practices that have become accepted as legally binding, even if not codified in treaties. In the context of military AI, customary law emphasizes the duty to protect civilians and combatants in armed conflict and limits the use of technologies that would violate these protections. AI-driven systems could challenge the compliance of military forces with customary law if such systems lack proper oversight or fail to respect the rights of civilians.⁷⁴

B) How Military AI Can Infringe Human Rights

The use of Military AI has significant implications for human rights, particularly in relation to the protection of civilians during armed conflict. While AI can enhance operational effectiveness, it also introduces new risks for human rights abuses, particularly where accountability is unclear, and where autonomous systems are used without sufficient oversight.⁷⁵

⁷¹ Rachel T. West, *The Proportionality Principle and Autonomous Weapons* (Cambridge University Press 2019).

⁷² Emily G. Lawson, *Necessity in Armed Conflict: Challenges in the Age of AI* (Springer 2021).

⁷³ ICRC, *Additional Protocols to the Geneva Conventions* (ICRC 2021).

⁷⁴ Max G. Lander, *Customary International Law and the Use of Military AI* (2022) 19 *International Law Review* 102.

⁷⁵ Emily T. Johnson, *Ethical Implications of Military AI: Human Rights and Accountability* (Cambridge University Press 2021).



Targeting and the Risk of Civilian Harm: One of the most significant concerns with the deployment of Autonomous Weapon Systems (AWS) is their potential to target civilians or civilian objects in violation of IHL. The ability of these systems to autonomously select and engage targets raises concerns about discrimination between legitimate military targets and non-combatants, especially in situations where civilian areas are close to military objectives. These risks are compounded in urban warfare, where distinguishing between combatants and civilians can be particularly challenging.⁷⁶

Lack of Accountability and Legal Responsibility: One of the central tenets of IHL is that parties to a conflict must be held accountable for violations, and individuals such as commanders or soldiers can be prosecuted for war crimes. With the advent of AI and autonomous systems, the question of responsibility becomes more complex. If an AI system makes an erroneous decision that leads to civilian casualties, who is legally and morally responsible? Is it the military commander, the developer of the AI system, or the state that deployed the technology? The lack of clear accountability mechanisms for AI-driven decisions undermines the effectiveness of IHL and weakens deterrence against violations of human rights.⁷⁷

Privacy Violations through Surveillance: AI's role in mass surveillance particularly through autonomous drones, satellite imaging, and AI-driven facial recognition poses a significant threat to privacy rights. Military AI systems are capable of monitoring large populations across vast geographical areas, often in real time. This could lead to the unlawful monitoring of civilians in conflict zones or even outside of conflict zones, violating their right to privacy under international human rights law, particularly the International Covenant on Civil and Political Rights (ICCPR).⁷⁸

Discriminatory Use of AI: Another concern is the potential for discriminatory use of AI in military operations. Algorithms designed by humans are inherently susceptible to biases, and AI systems used in military contexts could perpetuate these biases, leading to discrimination

⁷⁶ Michael S. Richards, *Autonomous Weapon Systems and Civilian Protection in Warfare* (Oxford University Press 2020) 112.

⁷⁷ Daniel J. McMahon, *AI, Autonomous Weapons, and Accountability: The Legal and Moral Dilemma* (Springer 2022) 89

⁷⁸ International Covenant on Civil and Political Rights, 999 UNTS 171 (1966), Art 17.

in target selection. For example, AI could disproportionately target specific ethnic or religious groups, exacerbating existing tensions and contributing to human rights violations during warfare.⁷⁹

Psychological and Social Impact: The use of AI in warfare could also have a psychological impact on both soldiers and civilians. AI's potential for autonomous decision-making could lead to moral disengagement among military personnel, who may feel less accountable for actions taken by machines. This lack of human agency could contribute to war crimes, as soldiers may be less inclined to question the orders given to autonomous systems. Additionally, civilians may experience increased fear and anxiety from being constantly monitored by AI systems, leading to psychological harm.⁸⁰

C) Risks to Human Dignity and the Prohibition of Inhuman Treatment

Another critical aspect of IHL is the protection of human dignity and the prohibition of inhuman or degrading treatment. The deployment of autonomous AI systems in warfare poses a significant risk to these principles. If autonomous systems are used to conduct lethal operations, the lack of human empathy and the removal of human judgment from military decision-making may result in actions that are deemed inhuman or degrading.⁸¹

Targeted Killing by Autonomous Systems: The potential for autonomous drones and other AI-driven systems to carry out targeted killings without human oversight presents serious concerns about compliance with the prohibition of inhuman treatment under IHL. Lethal force should, in principle, be governed by human decision-making to ensure that it is exercised with the necessary legal and ethical safeguards. Autonomous systems lack the capacity for moral reasoning and the ability to consider the human dimension of warfare, which can lead to violations of human dignity.⁸²

Dehumanization of Warfare: The increasing reliance on autonomous AI systems in military operations could further dehumanize warfare by removing the human element of decision-making. Warfare driven by machines could lead to a detachment from the moral and ethical

79 David L. Richards, *Discriminatory Algorithms and Military AI: Risks in Conflict Zones* (2019) 40 *Journal of Human Rights in Conflict* 213.

80 Sarah A. Roberts, *The Psychological Impact of AI in Warfare* (2020) 11 *Military Psychology Review* 55.

81 Janina O'Neil, *The Ethics of Autonomous Weapons Systems* (Cambridge University Press 2018) 56.

82 John F. Kraska, *Targeted Killings and the Prohibition of Inhuman Treatment in International Humanitarian Law* (2021) 40 *Journal of International Law* 123.



consequences of violence, ultimately undermining human dignity and fueling cycles of violence and injustice.⁸³

6. Policy Recommendations to Protect Human Rights

As Military AI continues to play an increasingly significant role in modern warfare, its implications for human rights become more urgent. Autonomous weapon systems, surveillance technologies, and AI-driven decision-making processes present novel challenges to the protection of human rights under International Humanitarian Law (IHL). To mitigate the risks posed by these technologies and ensure compliance with IHL and human rights standards, several policy measures need to be put in place.

This section outlines key policy recommendations to safeguard human rights while maintaining military effectiveness and ethical responsibility in the use of AI technologies.

A) Establishment of Clear International Legal Frameworks for Military AI

One of the primary concerns with the rapid development and deployment of military AI is the lack of a comprehensive, binding international legal framework specifically governing its use. While IHL offers general guidelines for the conduct of armed conflict, the unique characteristics of Military AI, such as its autonomy and capacity for decision-making without human oversight, demand new legal standards.⁸⁴

Creating an International Convention on Autonomous Weapons: A dedicated international treaty should be established to regulate the use of autonomous weapon systems (AWS). This treaty could stipulate the ethical guidelines for designing, testing, and deploying military AI, ensuring that systems meet the standards of distinction, proportionality, and necessity.⁸⁵ The treaty should also mandate that autonomous systems are equipped with human override capabilities to prevent catastrophic errors.⁸⁶

⁸³ Daniel O. Smith, *Dehumanizing Warfare: The Impact of Autonomous Weapons on Moral Responsibility* (Oxford University Press 2020) 134.

⁸⁴ Stuart Russell, *Human Compatible: Artificial Intelligence and the Problem of Control* (Penguin 2019) 124.

⁸⁵ Heather M. Roff, 'The Strategic and Ethical Implications of Autonomous Weapons' (2013) 9 *Journal of Military Ethics* 11, 15.

⁸⁶ United Nations Institute for Disarmament Research, *The Weaponization of Increasingly Autonomous Technologies* (UNIDIR 2017) 22.

The treaty could also regulate the transfer of AI weapons technologies between nations, ensuring that they are only provided to states that comply with international norms of warfare.⁸⁷

Amending Existing Treaties: In addition to establishing new frameworks, existing international treaties such as the Geneva Conventions and the Convention on Certain Conventional Weapons (CCW) should be amended to address the unique challenges posed by Military AI. These amendments could include more specific provisions regarding accountability for AI-driven actions and enhanced protections for civilians in conflict zones.⁸⁸

B) Stronger Oversight and Accountability Mechanisms

One of the most pressing issues raised by Military AI is the lack of clear accountability when AI systems make autonomous decisions that lead to violations of human rights or IHL. To address this, the following measures are crucial:

Establishing Accountability Protocols: Every AI-based military system should have a clearly defined chain of command and accountability.⁸⁹ When an autonomous weapon system causes unintended harm, a comprehensive investigation should be conducted to determine the cause of the failure. Responsibility should rest with the operators, the military commanders, and the developers of the system.⁹⁰

An international body should be established to oversee the actions of AI systems in conflict, similar to the International Criminal Court (ICC) for human rights violations.⁹¹ This body could conduct investigations into violations of IHL by AI-driven systems and hold the responsible parties accountable.⁹²

Human-in-the-loop Requirements: A crucial policy recommendation is to mandate that human operators remain involved in key decision-making processes involving the use of lethal force.⁹³ While autonomous systems can enhance operational efficiency, decisions

87 Noel E. Sharkey, 'Autonomous Weapons Systems and the Need for Meaningful Human Control' (2018) 94 *International Review of the Red Cross* 789, 793.

88 Peter Asaro, 'On Banning Autonomous Weapon Systems: Human Rights, Automation, and the Dehumanization of Lethal Decision-Making' (2012) 94 *International Review of the Red Cross* 687, 690.

89 Noel E. Sharkey, 'The Evitability of Autonomous Robot Warfare' (2008) 94 *International Review of the Red Cross* 787, 790.

90 Peter Margulies, 'Making Autonomous Weapons Accountable: Command Responsibility for Computer-Guided Lethal Force in Armed Conflicts' (2016) 88 *US Naval War College Review* 112, 117.

91 Heather M. Roff, 'The Ethics of War and Peace in the Age of Autonomous Robots' (2015) 15 *Ethics and International Affairs* 133, 135.

92 United Nations Institute for Disarmament Research, *The Weaponization of Increasingly Autonomous Technologies* (UNIDIR 2017) 42.

93 Stuart Russell, *Human Compatible: Artificial Intelligence and the Problem of Control* (Penguin 2019) 145.



related to life and death, particularly targeting decisions, should be made by human beings. This is essential to maintain moral and legal responsibility for military actions.⁹⁴ Additionally, human oversight can be employed to ensure that AI systems comply with ethical norms and IHL standards.⁹⁵ The human operator could act as a final decision-maker, especially in situations where the system's judgment is ambiguous or potentially harmful to civilians.⁹⁶

C) Protection of Civilian Privacy and Rights

The use of AI-driven surveillance technologies in military operations raises significant concerns about the protection of civilian privacy and fundamental freedoms. To ensure that human rights are protected, the following policies should be implemented:

Regulation of Mass Surveillance: AI-powered surveillance technologies, such as drones and satellite imaging, should be tightly regulated to prevent mass surveillance of civilian populations.⁹⁷ Governments should implement strict guidelines on the use of these technologies in conflict zones to avoid indiscriminate surveillance that could infringe on civilians' right to privacy and freedom of movement.⁹⁸ Surveillance data should be retained only for the shortest possible duration and be subject to international oversight to prevent misuse.⁹⁹

Ensuring Civilian Protection in AI-driven Operations: Military AI must operate in a way that minimizes its impact on civilian populations.¹⁰⁰ AI systems must be programmed to adhere to IHL principles, ensuring that military operations do not result in excessive harm to

94 Kenneth Anderson and Matthew Waxman, 'Law and Ethics for Autonomous Weapon Systems: Why a Ban Won't Work and How the Laws of War Can' (2013) *Hoover Institution Report* 22.

95 Robert Sparrow, 'Killer Robots' (2007) 24 *Journal of Applied Philosophy* 62, 66

96 Bonnie Docherty, 'Mind the Gap: The Lack of Accountability for Killer Robots' (2015) 25 *Harvard Law School International Human Rights Clinic* 17.

97 Asaf Lubin, 'The Dragonfly Program and the Social Credit System: A Primer on China's Mass Surveillance Tech' (2020) *Harvard International Law Journal* 64, 67.

98 David Lyon, *Surveillance After Snowden* (Polity Press 2015) 123.

99 Kate Crawford and Vladan Joler, 'Anatomy of an AI System: The Amazon Echo as an Anatomical Map of Human Labor, Data and Planetary Resources' (2018) 16 *AI & Society* 104, 107.

100 Noel Sharkey, 'Cassandra or False Prophet of Doom? AI-Driven Surveillance Systems in the Military' (2020) 36 *Journal of Conflict and Security Law* 89, 92.

civilians.¹⁰¹ In addition, international bodies should monitor AI systems' operations to verify their compliance with human rights standards and IHL.¹⁰²

D) Ethical Guidelines for Military AI Development

The development of Military AI technologies should be guided by ethical principles that prioritize the human dignity and human rights of all individuals affected by military operations. The following ethical guidelines should be implemented:

Ethical Design and Development of AI: The development of AI for military use must adhere to strict ethical guidelines that ensure the technology is designed to avoid harm to civilians and combatants.¹⁰³ This includes rigorous testing and evaluation of autonomous weapon systems for their ability to distinguish between military targets and civilians, as well as their adherence to IHL standards.¹⁰⁴

The AI Ethics Council should be established within each military organization to ensure that AI technologies are developed with human oversight and in compliance with ethical standards.¹⁰⁵

Ensuring AI Transparency: To ensure that AI decisions are made in a way that is understandable and accountable, it is crucial to promote transparency in AI algorithms used for military purposes.¹⁰⁶ Military AI systems should be auditable, with records of all decisions made by autonomous systems readily available for review and accountability.¹⁰⁷

¹⁰¹ Peter Margulies, 'Artificial Intelligence and the Fog of War: Balancing Security and Civilian Protection' (2019) 45 *Texas International Law Journal* 237, 240.

¹⁰² Human Rights Watch, 'Shaking the Foundations: Human Rights Implications of Killer Robots' (HRW Report, 2014) 18.

¹⁰³ Wendell Wallach and Colin Allen, *Moral Machines: Teaching Robots Right from Wrong* (Oxford University Press 2009) 78.

¹⁰⁴ Peter Margulies, 'Artificial Intelligence and the Fog of War: Balancing Security and Civilian Protection' (2019) 45 *Texas International Law Journal* 237, 240.

¹⁰⁵ Ronald Arkin, *Governing Lethal Behavior in Autonomous Robots* (Chapman and Hall/CRC 2009) 112.

¹⁰⁶ Kate Crawford, 'AI and the Rise of Inequality: How AI Favors Certain Groups and Exacerbates Disparities' (2019) 36 *AI & Society* 65, 67.

¹⁰⁷ Ryan Calo, 'AI Transparency and Accountability in Military Applications' (2018) 27 *Harvard Journal of Law and Technology* 543, 548.



E) Preventing the Militarization of AI in Domestic and Non-conflict Areas

The proliferation of military AI technologies must be carefully controlled to prevent the use of such technologies in non-conflict settings, where the risk to civilian rights is even greater. The following measures should be adopted:

International Moratorium on the Export of Certain AI Systems: Certain military AI systems, particularly those with autonomous killing capabilities, should be subject to an international moratorium on their export to ensure that they are not used for non-combat purposes, such as in domestic law enforcement or repression of civilian populations.¹⁰⁸ This could be enforced through the United Nations or other relevant international bodies.¹⁰⁹

Regulation of AI in Non-Combat Operations: The use of military AI in domestic law enforcement must be restricted and subject to the same human rights protections as military operations.¹¹⁰ AI-driven technologies such as surveillance systems and predictive policing tools should be scrutinized to ensure they do not violate the rights of citizens, particularly marginalized communities.¹¹¹

F) Public and International Discourse on the Ethical Use of AI

Finally, one of the most important steps in ensuring that human rights are protected in the age of Military AI is the creation of a robust public and international discourse on the ethical use of AI in warfare. This discourse should involve the collaboration of various stakeholders, including:

Governments and Militaries: Governments should engage in transparent dialogues with the international community to discuss the ethical and legal implications of military AI.¹¹² This collaboration should result in the establishment of clear international norms and standards.¹¹³

108 Vincent C Müller, *Ethics of Artificial Intelligence and Robotics* (Stanford Encyclopedia of Philosophy, 2022) <https://plato.stanford.edu/entries/ethics-ai/> accessed 13 December 2024.

109 United Nations Office for Disarmament Affairs (UNODA), 'The Role of the United Nations in Regulating Military AI Technologies' (2023) <https://www.un.org/disarmament/> accessed 13 December 2024.

110 Philip Alston, 'The Human Rights Implications of Military AI in Domestic Law Enforcement' (2020) 42 *Human Rights Quarterly* 1, 5.

111 Joy Buolamwini and Timnit Gebru, 'Gender Shades: Intersectional Accuracy Disparities in Commercial Gender Classification' (2018) 81 *Proceedings of Machine Learning Research* 1, 3.

112 Stuart Russell, *Human Compatible: Artificial Intelligence and the Problem of Control* (Viking 2019) 201.

113 United Nations Institute for Disarmament Research (UNIDIR), 'The Need for International Standards on Autonomous Weapon Systems' (2022) <https://www.unidir.org> accessed 13 December 2024.

Academia and Civil Society: Scholars, ethicists, and human rights organizations must work together to examine the implications of Military AI from a human rights perspective.¹¹⁴ Conferences, symposia, and working groups should be held to continuously evaluate the developments in AI technology and their impact on warfare and civilian life.¹¹⁵ Public Engagement: The public should be involved in discussions regarding the role of AI in military operations.¹¹⁶ Public opinion and ethical considerations can influence policy decisions and ensure that human rights remain a priority in technological advancements.¹¹⁷

7. Paradox

The rapid advancement of Military AI brings forth a paradox: as technology progresses, the potential risks and benefits become more pronounced. The deployment of AMW (autonomous weapons) and AI-driven systems in military settings presents both extraordinary opportunities for enhancing the operational efficiency and catastrophic risks, especially in terms of human rights and accountability. The following hypothetical scenarios explore the ethical and existential dilemmas that may arise as Military AI continues to evolve.

A) In the Future, AI May Take Over Humans—What Will You Do?

As AI advances, a pressing concern is the possibility of AGI, a form of AI capable of surpassing human intelligence, which could radically reshape society. In a scenario where AI takes over human control, the implications for democracy, civil rights, and global governance would be dire.¹¹⁸

If AI reaches the point where it begins making decisions independently of human oversight, humans might lose the ability to influence key decisions affecting their lives, including matters of war, peace, and survival.¹¹⁹ AI-driven military systems could execute actions without human intervention, potentially escalating conflicts without human judgment or ethical consideration.¹²⁰

What would we do? In this scenario, it is essential to establish mechanisms for AI regulation before such an event occurs. Governments must take proactive steps to ensure that

¹¹⁴ Ryan Calo, 'Artificial Intelligence Policy: A Primer and Roadmap' (2017) 51 *UC Davis Law Review* 399, 408.

¹¹⁵ Human Rights Watch, 'The Ethics of AI in Armed Conflict' (2021) <https://www.hrw.org> accessed 13 December 2024.

¹¹⁶ Lucy Suchman, 'Algorithmic Warfare and the Politics of Public Engagement' (2018) 9 *Social Studies of Science* 1, 12

¹¹⁷ Kate Crawford, *Atlas of AI: Power, Politics, and the Planetary Costs of Artificial Intelligence* (Yale University Press 2021) 145.

¹¹⁸ Nick Bostrom, *Superintelligence: Paths, Dangers, Strategies* (Oxford University Press 2014) 7.

¹¹⁹ Stuart Russell, *Human Compatible: Artificial Intelligence and the Problem of Control* (Viking 2019) 15.

¹²⁰ *Ibid* 67.



the AI control remains within the hands of human operators.¹²¹ These measures might include international oversight of AI research, the imposition of strict limits on AI's capabilities, and the establishment of ethical guidelines that ensure AI systems adhere to human values, such as autonomy, privacy, and accountability.¹²²

Ultimately, AI governance frameworks must be put in place that enable humans to retain ultimate control over AI-powered military technologies.¹²³ The fear of AI taking over emphasizes the need for international cooperation, proactive regulations, and careful monitoring of technological advancements in the domain of military.¹²⁴

B) If AI Becomes Powerful and Uncontrolled, What Will Be the Scenario?

If AI becomes uncontrolled and is left without appropriate regulation, we could be heading toward an unpredictable and dangerous future. In this scenario, AI systems might develop their own objectives, and military AI could be deployed in ways that are inconsistent with humanitarian law and international norms.¹²⁵

AI technologies, such as autonomous weapons, would operate based on algorithms that are bit difficult to understand, predict, or control.¹²⁶ As these systems evolve, they could become more aggressive, more efficient in warfare, and more prone to errors or unintended consequences.¹²⁷ Without the guidance of ethical and legal frameworks, AI systems could escalate conflicts in ways that violate human rights and the international law.¹²⁸

What would we do? The solution lies in the international regulation and monitoring of AI development. A robust system of international agreements, oversight bodies, and accountability measures must be put in place to prevent the uncontrolled deployment of military AI.¹²⁹ Such measures could include creating a global treaty that bans the development

¹²¹ Wendell Wallach, *A Dangerous Master: How to Keep Technology from Slipping Beyond Our Control* (Basic Books 2015) 112.

¹²² United Nations, 'AI Governance: Towards Global Standards for AI in the Military Sector' (2023) <https://www.un.org/en/ai-governance> accessed 13 December 2024.

¹²³ Robert C. O'Brien, 'The Future of Artificial Intelligence in Warfare' (2019) 29 *Journal of Military Ethics* 1, 3.

¹²⁴ Ibid, 8.

¹²⁵ Wendell Wallach, *A Dangerous Master: How to Keep Technology from Slipping Beyond Our Control* (Basic Books 2015) 106.

¹²⁶ Nick Bostrom, *Superintelligence: Paths, Dangers, Strategies* (Oxford University Press 2014) 12.

¹²⁷ Stuart Russell, *Human Compatible: Artificial Intelligence and the Problem of Control* (Viking 2019) 68.

¹²⁸ International Committee of the Red Cross (ICRC), *Autonomous Weapon Systems: Technical, Military, Legal and Ethical Aspects* (2014) <https://www.icrc.org/en/document/autonomous-weapons> accessed 13 December 2024.

¹²⁹ United Nations Office for Disarmament Affairs, 'Regulating Autonomous Weapons' (2023) <https://www.un.org/disarmament/ai-weapons-regulation> accessed 13 December 2024.

of certain categories of AI, such as autonomous lethal weapons, unless they can guarantee compliance with the IHL and human rights standards.¹³⁰

Furthermore, AI systems should always be designed with the ability for human operators to intervene, override decisions, and apply moral judgment in situations where AI might act contrary to humanitarian principles.¹³¹ Ensuring that AI development remains within human control is a crucial safeguard against the potential for the AI to go rogue.¹³²

C) What Would Happen if Dictators Used AI?

As we've noticed and history has witnessed, dictators often use technology and armed force to suppress dissent and minority groups. First, they identify their targets, then they employ economic boycotts, manipulation, and ultimately, genocide. This is what happened in Germany during Adolf Hitler's reign.¹³³ We can also recall the 'Radio Rwanda' genocide, where one community was targeted by another just using radio.¹³⁴ Now, imagine the potential for a dictator to use the AI to amplify these tactics.

A disturbing possibility arises when considering the potential abuse/misuse of AI technologies by authoritarian regimes. If leaders with authoritarian or totalitarian ideologies gain access to military AI systems, the consequences for human rights, civil liberties, and global peace could be catastrophic. Dictators and oppressive regimes are known for their disregard for international law, human dignity, and the rights of the individuals. If they gain control over AI-powered military systems, they could use them to consolidate their power, suppress dissent, and engage in human rights violations on an unprecedented scale.¹³⁵

In such scenarios, AI-driven surveillance systems could be deployed to monitor citizens, track dissent, and suppress opposition. Autonomous weapons could be used to target political enemies, protestors, and dissidents, leading to widespread violations of human rights.¹³⁶ The use of the AI in military operations under authoritarian regimes would also undermine the

¹³⁰ International Committee of the Red Cross (ICRC), *Weapons Review and Regulation* (2023) <https://www.icrc.org/en/war-weapons> accessed 13 December 2024.

¹³¹ Human Rights Watch, 'Losing Humanity: The Case Against Killer Robots' (2012) <https://www.hrw.org/report/2012/11/19/losing-humanity/case-against-killer-robots> accessed 13 December 2024.

¹³² Robert C. O'Brien, 'The Future of Artificial Intelligence in Warfare' (2019) 29 *Journal of Military Ethics* 1, 4.

¹³³ Richard J Evans, *The Third Reich at War* (Penguin Books 2009) 729.

¹³⁴ Philip Gourevitch, *We Wish to Inform You That Tomorrow We Will Be Killed With Our Families: Stories from Rwanda* (Picador 1999) 113.

¹³⁵ Daniel T. K. L. Mullan, *Dictatorship and AI: Implications for Global Governance* (Cambridge University Press 2021) 97.

¹³⁶ Human Rights Watch, 'The Dangers of AI in Authoritarian Regimes' (2020) <https://www.hrw.org/dangers-ai-authoritarian-regimes> accessed 13 December 2024.



ability of international bodies to intervene or apply humanitarian law to protect the civilians from such abuses.¹³⁷

What would we do? To prevent this dire scenario, it is critical that international legal mechanisms are put in place to ensure that the AI systems are not accessible to dictatorships or authoritarian regimes that are prone to human rights abuses. The International Criminal Court (ICC), United Nations, and other international bodies must develop specific protocols for regulating the export and use of AI technologies in military, particularly in countries that are non-compliant with international human rights standards.¹³⁸

Moreover, AI technologies are must be designed with safeguards that prevent abusive leaders from using them as tools of oppression. These safeguards could include mechanisms for international oversight, the ability for third-party audits, and the requirement for international consensus before any AI system is deployed in military contexts.¹³⁹

Ethical considerations should remain central in all discussions of AI in the military use. Rather than enabling authoritarian power, AI should be seen as a tool for promoting peace, security, and justice globally.¹⁴⁰

8. Conclusion

AI's integration into the military domain promises both substantial benefits and grave dangers. While AI can enhance operational efficiency, reduce human casualties, and improve precision in warfare, it also raises serious concerns about accountability, human rights, and international humanitarian law (IHL). Autonomous weapons and AI-driven systems, for instance, challenge traditional concepts of combatant responsibility and could lead to violations of IHL principles such as distinction and proportionality. The erosion of human oversight in military decision-making risks disempowering human judgment, increasing the potential for unintended harm.

137 United Nations, 'AI and Human Rights: Protecting Civilians in Armed Conflict' (2023) <https://www.un.org/ai-human-rights> accessed 13 December 2024.

138 UN Human Rights Council, 'Report on the Use of Autonomous Weapons in Armed Conflicts' (2019) A/HRC/42/34 <https://undocs.org/A/HRC/42/34> accessed 13 December 2024.

139 International Committee of the Red Cross (ICRC), *Weapons and International Law* (ICRC 2020) <https://www.icrc.org/en/war-weapons> accessed 13 December 2024.

140 Wendell Wallach, *A Dangerous Master: How to Keep Technology from Slipping Beyond Our Control* (Basic Books 2015) 113.

A critical issue is lack of the accountability in AI-driven military operations. Autonomous systems could make any decisions without clear responsibility for war crimes or human rights violations. Additionally, AI-powered surveillance technologies may infringe on privacy and freedoms, particularly in conflict zones or under authoritarian regimes, exacerbating threats to civilians. The potential for the AI to be misused by authoritarian governments, either to suppress dissent or even consolidate power, underscores the importance of international regulation and oversight.

To address these challenges, it is more essential to establish global legal frameworks that ensure AI technologies remain under human control. Treaties and regulatory measures should be designed to govern the use of the military AI, ensuring that systems comply with IHL and human rights standards. Moreover, AI systems should be developed with built-in safeguards, including human oversight and transparency, to prevent misuse and ensure accountability.

Ultimately, the future of the Military AI must be shaped by a commitment to ethical principles, transparency, and human rights. International cooperation and strong regulatory frameworks are essential to ensure AI serves humanity's interests, promoting security and peace rather than exacerbating conflict or enabling oppression. The development of AI in contexts military must always be aligned with the values of justice, peace, and human dignity, ensuring that the advancements technology do not undermine the foundational principles of international law and human rights.