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The Responsibility to Protect in the AI Era: Examining IHL and State Obligations in the Face of AI-Enabled Warfare in Ukraine

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Abstract

The integration of artificial intelligence (AI) in warfare is reshaping global security and raising critical concerns under international humanitarian law (IHL) and the responsibility to protect (R2P). This study examines ai-enabled military strategies in the Ukrainian conflict, highlighting legal, ethical, and accountability challenges.AI technologies, including autonomous weapon systems and drones, enhance precision and efficiency but also pose risks such as indiscriminate harm and erosion of the principle of distinction. The absence of clear international regulations exacerbates these concerns, making it imperative to assess state responsibilities under IHL to prevent violations of proportionality and necessity. The research further explores the role of R2P in AI-driven warfare, questioning whether AI strengthens or weakens state obligations to prevent mass atrocities. To adapt to the AI era, the paper proposes legal reforms, including transparency in AI weapon deployment, accountability structures for autonomous systems, and strengthened compliance mechanisms. By using the Ukrainian conflict as a case study, this research underscores the urgent need for global cooperation to mitigate humanitarian risks while upholding legal and ethical norms in modern warfare.

Keywords: *Artificial Intelligence (AI), International Humanitarian Law (IHL), Responsibility to Protect (R2P), Russia - Ukrainian Conflict, Ethical AI.*

1. Introduction

The integration of artificial intelligence (AI) into modern warfare marks a paradigm shift in military strategy, transforming the global security landscape. AI-driven technologies, including autonomous weapon systems (AWS), machine learning algorithms, and data-driven decision-making tools, have significantly altered the nature of armed conflicts. While AI enhances operational efficiency, precision, and real-time strategic analysis, it also raises profound ethical, legal, and humanitarian concerns. The development and deployment of AI-powered weaponry introduce challenges to the established norms of warfare, particularly under International Humanitarian Law (IHL) and the doctrine of the Responsibility to Protect (R2P). The emergence of AI in warfare presents complex legal and ethical dilemmas that demand urgent scholarly attention. AI-driven warfare challenges existing legal norms, necessitating a reassessment of state responsibilities under IHL. The rapid advancement of AI technology, coupled with the absence of comprehensive international regulations, raises concerns about the potential for indiscriminate violence, unlawful targeting, and the erosion of fundamental humanitarian principles.

The Ukrainian conflict serves as a critical case study for understanding the implications of AI-enabled warfare in contemporary armed conflicts. Reports indicate that both state and non-state actors are leveraging AI for surveillance, target identification, and autonomous combat operations. These developments challenge traditional military doctrines, creating concerns regarding accountability, proportionality, and civilian protection. With AI systems capable of making autonomous decisions on life and death, the international legal framework faces unprecedented difficulties in ensuring compliance with fundamental humanitarian principles. The question remains whether AI enhances or undermines state obligations under IHL and R2P, particularly in conflict zones like Ukraine.

The doctrine of R2P was established to prevent mass atrocities, including war crimes, crimes against humanity, and genocide. In an era where AI systems

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increasingly influence military decision-making, the question arises: Can states effectively uphold their R2P obligations when lethal decisions are entrusted to autonomous machines? The Ukrainian conflict provides a contemporary lens through which to examine these pressing questions, as reports suggest AI-driven military systems are being deployed with minimal oversight. Understanding the intersection of AI, IHL, and R2P is crucial to shaping the future of international security and ensuring that technological advancements do not come at the expense of human rights and humanitarian norms.

The research employs a doctrinal approach, and case study methodology to assess the intersection of AI-enabled warfare, IHL, and R2P. This research aims to critically examine the role of AI in modern warfare and its impact on state obligations under IHL and R2P, with a specific focus on the ongoing Ukrainian conflict. The research questions involved in the study are: How does AI-enabled warfare challenge existing IHL principles, particularly in conflict zones like Ukraine? What are the implications of AI-driven military operations for state obligations under R2P? What policy recommendations can be made to enhance legal oversight and ethical compliance in AI-driven conflicts? The study has also certain limitations. First, AI in warfare is an evolving field, and the lack of standardized international regulations makes it difficult to assess long-term legal implications. Second, due to security concerns and classified information, access to comprehensive data on AI-driven military operations remains limited. Finally, while the Ukrainian conflict serves as a case study, the findings may not be universally applicable to all AI-influenced conflicts due to differences in geopolitical, legal, and technological contexts.

The rise of AI in military operations presents both opportunities and challenges for international law. While AI has the potential to enhance precision and reduce collateral damage, its deployment also raises serious legal and ethical concerns. The Ukrainian conflict serves as a critical test case for evaluating how AI-enabled warfare aligns with or contradicts IHL and R2P obligations. This research seeks to provide a nuanced analysis of these issues, contributing to the ongoing discourse on the need for stronger legal mechanisms to regulate AI in warfare.

2. AI and IHL: A Historical and Legal Nexus

The inception of AI as a scientific discipline began in the 1950s, with the Dartmouth Conference in 1956 often cited as a pivotal moment. During this period, researchers focused on symbolic AI, which involved programming computers to manipulate symbols and process rules to mimic human reasoning. Despite initial enthusiasm, symbolic AI faced significant challenges. The complexity of human cognition proved difficult to replicate with rule-based systems, leading to unmet expectations and a reduction in funding and interest—a period often referred to as the "AI winter." The Rise of Machine Learning (1980s-1990s), in response to the limitations of symbolic AI, the focus shifted towards machine learning, where systems learn patterns from data rather than relying solely on predefined rules. This era saw the development of algorithms capable of learning and making decisions based on data inputs. The resurgence of interest in neural networks, inspired by the human brain's architecture, marked this period. These networks, along with other statistical methods, enabled more effective handling of uncertainties and complexities in data. The Emergence of Deep Learning and Big Data (2000s-Present), the 21st century brought significant increases in computational resources, allowing for the training of deep learning models with multiple layers. These models have achieved remarkable success in areas such as image and speech recognition. The proliferation of large datasets has further propelled AI capabilities, enabling more accurate and robust models. This integration has led to AI systems that can perform complex tasks, from natural language processing to autonomous driving. (Delipetrev Blagoj et al., 2020)

On the IHL it is one of the oldest branches of law. International Humanitarian Law (IHL), commonly known as the laws of war, has undergone significant evolution. Before the codification of IHL, various civilizations had customary laws governing warfare. Early codes such as the Laws of Manu (India), Sun Tzu's "Art of War" (China), and the writings of Cicero (Rome) contained principles of limiting war's brutality. The religious texts like Mahabharata

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(Hinduism), Quran (Islamic), (Bible) Christian, and other religious traditions emphasized rules of war, including protection of civilians and humane treatment of prisoners. The formal codification of IHL began in the 19th century with the establishment of international treaties. 1863 Lieber Code (United States) is the first official military code on war conduct, influencing later international treaties. 1864 Geneva Convention led by Henry Dunant after the Battle of Solferino, this treaty laid the foundation for the protection of wounded soldiers and the establishment of the International Committee of the Red Cross (ICRC). The Hague Conventions (1899 & 1907) these treaties focused on rules regarding means and methods of warfare, including the prohibition of certain weapons. World Wars I and II led to further development and strengthening of IHL. 1929 Geneva Convention, expanded protections for prisoners of war, addressing mistreatment during World War I. 1949 Geneva Conventions plays the important role, following the atrocities of World War II, four revised Geneva Conventions were adopted, covering: Protection of wounded and sick soldiers on land, Protection of wounded and sick soldiers at sea, Treatment of prisoners of war, Protection of civilians in war zones. These conventions became the cornerstone of modern IHL. With changing warfare dynamics, new treaties and legal frameworks emerged. 1977 Additional Protocols to the Geneva Conventions, 1993 Chemical Weapons Convention, 1998 Rome Statute of the International Criminal Court (ICC) played the significant role in the development of IHL. (The View of the Past in International Humanitarian Law (1860–2020), 2022)

The intersection of Artificial Intelligence (AI) and International Humanitarian Law (IHL) has gained prominence in recent decades due to advancements in autonomous weapons, cyber warfare, and AI-driven military decision-making. While IHL has historically governed armed conflicts, the rise of AI-powered military technologies has created new legal and ethical challenges.

3. The Russia-Ukraine Conflict: Historical Disputes and Contemporary Causes of War

The Russia-Ukraine conflict is one of the most significant geopolitical crises of the 21st century, deeply rooted in historical disputes and contemporary political tensions. This chapter explores the historical background of Russian-Ukrainian relations, the causes leading to the conflict, and the broader geopolitical implications of the war. Understanding the historical grievances and modern triggers provides essential context for analysing the conflict's impact on international law, security, and humanitarian concerns.

Ukraine and Russia share a long and intertwined history dating back to the Kievan Rus, a medieval East Slavic state that laid the foundations for both nations. However, Ukraine's subjugation under the Russian Empire in the 18th and 19th centuries led to policies aimed at suppressing Ukrainian identity, language, and culture. The annexation of Ukraine by the Russian Empire fuelled long-standing tensions and resistance.

During the Soviet period (1922-1991), Ukraine was an essential part of the USSR but suffered immensely under Soviet policies, particularly during Joseph Stalin's rule. The Holodomor (1932-1933), a man-made famine orchestrated by the Soviet government, resulted in millions of Ukrainian deaths and remains a critical historical grievance. Additionally, efforts to suppress Ukrainian nationalism continued, even as Ukraine played a vital role in the Soviet economy and military. The dissolution of the Soviet Union in 1991 marked Ukraine's independence, but tensions with Russia persisted. While Ukraine sought closer ties with the West, particularly through NATO and the European Union (EU), Russia viewed these moves as a threat to its sphere of influence. The Black Sea Fleet in Crimea, energy disputes, and Ukraine's aspirations for European integration became early sources of friction. (Ukraine: Conflict at the Crossroads of Europe and Russia, 2022)

The Euromaidan protests in 2013-2014 marked a turning point in Ukraine-Russia relations. Ukrainian President Viktor Yanukovych's decision to reject an EU association agreement in favour of closer ties with Russia sparked mass protests. His ousting in February 2014 led to political instability, which Russia exploited to advance its strategic interests. (Smith & Harari, 2025)

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In March 2014, Russia annexed Crimea following a disputed referendum, widely condemned by the international community. Shortly thereafter, pro-Russian separatists in Donetsk and Luhansk declared independence, triggering an armed conflict in eastern Ukraine. The war in Donbas has since been a focal point of the broader Russia-Ukraine conflict, characterized by Russian military support for separatists and ongoing hostilities.

Russia has long opposed NATO's eastward expansion, viewing it as a direct threat to its national security. Ukraine's aspirations to join NATO and strengthen ties with Western military alliances heightened Russian fears of strategic encirclement. Moscow has framed its military actions as a defensive measure against Western encroachment.

Energy has played a crucial role in the conflict, with Russia leveraging its dominance in natural gas supplies to exert economic pressure on Ukraine. Gas disputes, supply cutoffs, and pipeline politics have intensified tensions, further complicating diplomatic efforts to resolve the crisis.

The conflict has also been fuelled by ethnic and cultural divisions, particularly in eastern Ukraine, where a significant Russian-speaking population resides. Moscow has used the narrative of protecting Russian-speaking citizens as justification for its interventions, although this claim is widely disputed by Ukraine and its allies.

In response to Russia's actions, Western nations imposed economic sanctions targeting key sectors of the Russian economy, including finance, energy, and defence. Sanctions have significantly impacted Russia's economy, but their effectiveness in deterring aggression remains debated.

The United States, the European Union, and NATO have provided substantial military aid to Ukraine, including weapons, intelligence, and training support. The increasing involvement of Western powers has escalated the geopolitical stakes of the conflict. The United Nations has condemned Russia's actions and called for diplomatic solutions, but its ability to enforce resolutions has been limited. The International Criminal Court (ICC) has launched investigations into potential war crimes, highlighting the legal dimensions of the conflict. In March, 2023 ICC also issued the arrest warrant for two individuals in the context of Ukrainian Conflict: Mr Vladimir Vladimirovich Putin and Ms Maria Alekseyevna Lvova-Belova (Situation in Ukraine: ICC Judges Issue Arrest Warrants against Vladimir Vladimirovich Putin and Maria Alekseyevna Lvova-Belova, 2023). The war has resulted in thousands of civilian and combatant deaths, and the displacement of millions. The humanitarian crisis has strained neighbouring countries and international aid organizations, raising urgent concerns about human rights and international humanitarian law violations. The war has disrupted global energy markets, leading to rising prices and supply chain challenges. The conflict's economic ripple effects extend beyond Ukraine and Russia, affecting Europe, Asia, and beyond. The Russia-Ukraine war has set a precedent for global security dynamics. The conflict has reignited discussions on military alliances, deterrence strategies, and the role of major powers in maintaining international stability. The Russia-Ukraine conflict is a culmination of deep-rooted historical grievances and contemporary geopolitical tensions. From centuries of imperial rule to modern disputes over NATO expansion and energy politics, the war's causes are multifaceted. The conflict has not only reshaped regional security but has also had profound global implications. Moving forward, diplomatic efforts, legal accountability, and humanitarian assistance will be critical in addressing the ongoing crisis and preventing further escalation.

4. AI in Warfare: Technologies Used by Russia and Ukraine

The ongoing conflict between Russia and Ukraine has become a testing ground for the use of artificial intelligence (AI) in warfare. Both sides have employed AI-powered technologies in various aspects of their military operations, showcasing the growing importance of AI in modern conflicts. It will not be wrong to say that Ukraine has been turned into the AI technology testing lab. (Bergengruen, 2024)

4.1. AI Technologies Used by Russia

Russia has been actively developing and deploying AI-powered systems in its military. Some notable examples include:

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Target recognition and autonomous weapons: Russia has equipped its Lancet strike drones with AI-powered target recognition capabilities, enabling them to autonomously identify and engage enemy targets. This technology significantly enhances the drones' effectiveness and reduces the need for human intervention. (Hambling, 2024)

Robotics: Russia has showcased its Uran-9 combat robot, which is capable of conducting reconnaissance, providing fire support, and even engaging in combat autonomously. While the Uran-9 has not been widely deployed, it demonstrates Russia's advancements in military robotics. (Administrator, 2025)

Electronic and Information warfare: Russia is reportedly using AI to enhance its electronic warfare capabilities, enabling it to better identify and disrupt enemy communication and radar systems. Russia has a history of using AI-powered tools to spread disinformation and propaganda, manipulate public opinion, and sow discord among enemy populations. (Nadibaidze, 2024)

Now, Russia is sorting China's assistance in regards to modern or more advance AI systems, which shall be at par with the technologies of western nations, specially United States of America. (Lee, 2025)

4.1.1. AI Technologies Used by Ukraine

Ukraine, with the help of its allies also embraced AI in its defence efforts (Mysyshyn & Fellowship, 2024). Some key examples include:

Drone warfare: Ukraine has heavily relied on drones for reconnaissance, surveillance, and attack operations. Many of these drones are equipped with AI-powered features such as autonomous navigation, target tracking, and even swarm coordination. In 2024 the Ukrainian startup Swarmer which is registered in Delaware, and have offices in Poland and Romania have tested the AI driven drone swam. (Volpicelli et al., 2024)

Situational awareness: Ukraine has developed AI-powered systems to analyse vast amounts of data from various sources, including drones, satellites, and human intelligence, to provide a comprehensive picture of the battlefield. This allows for better decision-making and resource allocation. The technologies like "Delta System" and software used by "Palantir technologies" American based company is playing a significant role in this regard. (Ukrainska Pravda, 2023)

The Delta System is an advanced battlefield management system developed by Ukraine to enhance situational awareness, intelligence gathering, and coordination among military units. It plays a crucial role in Ukraine's defence against Russian aggression by integrating various data sources into a single platform. Delta collects and processes information from multiple sources, including satellites, drones, radars, reconnaissance teams, and open-source intelligence (OSINT). It integrates this data into a single digital map for commanders and soldiers to access. Delta is a cloud-based system, making it resilient against cyberattacks and allowing access from multiple locations. It uses encryption and cybersecurity measures to prevent unauthorized access. The system provides a digital battlefield map displaying enemy positions, friendly forces, potential threats, and terrain analysis. It is accessible through mobile devices, tablets, and laptops. Delta uses artificial intelligence to analyse patterns, predict enemy movements, and assist in decision-making. Automation reduces response time, helping military units act swiftly. It is compatible with NATO-standard systems, allowing Ukraine to share intelligence and coordinate with allied forces efficiently. This feature enhances interoperability with Western military technologies. Commanders can assign missions, track unit movements, and coordinate artillery, drones, and air support using the system. Soldiers on the ground receive updates on enemy positions, reducing friendly-fire incidents and improving operational efficiency. (Giordano, 2024)

Cyber defence: Ukraine has been a target of numerous cyberattacks, and AI plays a crucial role in its cyber defence efforts. AI-powered systems can detect and respond to cyber threats more quickly and effectively than traditional methods. (Ukraine Warns of Growing AI Use in Russian Cyber-Espionage Operations, 2025)

Facial recognition: Ukraine has used technologies like Clearview AI for facial recognition, this

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technology helps to identify deceased soldiers, investigate war crimes, and detect enemy infiltrators. (War in Ukraine - Clearview AI, 2022)

4.1.1.1. The Impact of use of AI in the Russia-Ukraine Conflict

The use of AI in the Russia-Ukraine conflict has had a significant impact on the dynamics of the war. It Increased lethality, AI-powered weapons systems, such as autonomous drones, can identify and engage targets more quickly and accurately, leading to increased casualties and destruction. The Usage of AI also Enhanced situational awareness, AI-powered systems can analyse vast amounts of data to provide a comprehensive picture of the battlefield, giving commanders a significant advantage in planning and executing operations. On the operational side of the war the use of AI accelerated tempo of operations, it can automate tasks such as target recognition and data analysis, allowing for faster decision-making and a quicker tempo of operations. The use of AI in this war introduced the new forms of warfare, such as drone swarms and autonomous cyberattacks, which can be difficult to counter with traditional methods. (EPIC, 2024)

5. The Responsibility to Protect (R2P) and Its Intersection with International Humanitarian Law (IHL)

The Responsibility to Protect (R2P) is a principle that asserts the international community's obligation to intervene in situations where a state fails to protect its population from mass atrocity crimes. These crimes, as defined under international law, include genocide, war crimes, ethnic cleansing, and crimes against humanity. While R2P is a relatively new concept, it is closely intertwined with International Humanitarian Law (IHL), which has a longer history of regulating armed conflict and protecting civilians. (Australian Red Cross, 2011)

5.1. The Origins and Evolution of R2P

R2P emerged in response to the international community's failure to prevent or adequately respond to the Rwandan genocide and the atrocities in the former Yugoslavia in the 1990s. The International Commission on Intervention and State Sovereignty (ICISS) introduced the concept in its 2001 report, "The Responsibility to Protect." The report argued that sovereignty is not absolute and that states have a primary responsibility to protect their populations from mass atrocity crimes. When a state fails to do so, the international community has a responsibility to take collective action, including, as a last resort, the use of force. (Nations, 2025). The R2P principle was endorsed by the UN General Assembly in the 2005 World Summit Outcome Document. (Nations, 2015) It rests on three pillars:

State Responsibility: The primary responsibility to protect its population lies with the state itself.

International Assistance: The international community has a responsibility to assist states in fulfilling their protection responsibilities.

Collective Action: If a state manifestly fails to protect its population, the international community must be prepared to take collective action, including the use of force under Chapter VII of the UN Charter, if peaceful means are inadequate. (What Is R2P? - Global Centre for the Responsibility to Protect, 2024)

IHL and R2P share the fundamental goal of protecting civilians from the most serious violations of human rights. Both frameworks recognize the inherent dignity and worth of all human beings and seek to prevent and punish atrocities. IHL provides specific rules and prohibitions that aim to prevent the very crimes that R2P seeks to address. For instance, the Geneva Conventions prohibit wilful killing, torture, inhuman treatment, and wilfully causing great suffering or serious injury to body or health, all of which constitute war crimes and can also be considered crimes against humanity or genocide.

Several points of convergence exist between R2P and IHL, like Both frameworks prioritize the protection of civilians and the prevention of mass atrocity crimes. They recognize the importance of upholding human dignity and preventing suffering in armed conflict. R2P and IHL are complementary. IHL provides specific rules and prohibitions governing the conduct of hostilities, while R2P provides a broader framework for responding to situations where mass atrocities are occurring or at risk of occurring. Both frameworks emphasize the importance of preventing atrocities. IHL aims to

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prevent violations through clear rules and obligations, while R2P highlights the need for early warning mechanisms and diplomatic initiatives to address potential crises. Both frameworks stress the importance of accountability for violations. IHL provides for the prosecution of war crimes, while R2P emphasizes the need to hold perpetrators of genocide, war crimes, ethnic cleansing, and crimes against humanity accountable. (Yin, 2024)

Despite their shared goals, there are some potential tensions exist between R2P and IHL. R2P's third pillar contemplates the use of force as a last resort to protect populations from mass atrocities. However, the legality and legitimacy of such interventions remain contested. IHL, while not prohibiting the use of force, sets strict limits on how hostilities may be conducted, emphasizing the principles of necessity, proportionality, and distinction. R2P challenges the traditional notion of absolute state sovereignty, arguing that states have a responsibility to protect their populations, and the international community has a right to intervene when they fail to do so. This can create tension with IHL's focus on regulating armed conflict within the existing framework of state sovereignty. Both R2P and IHL face implementation challenges. R2P has been criticized for its selective application and the lack of political will to act in many situations. IHL, while widely ratified, is often violated in practice, particularly in complex armed conflicts. (Rondeau, 2018)

To effectively address the challenges of mass atrocity crimes, R2P and IHL must be seen as mutually reinforcing frameworks. IHL provides the legal foundation for the protection of civilians in armed conflict, while R2P offers a framework for responding to situations where these protections are being systematically violated.

R2P and IHL are essential tools for preventing and responding to mass atrocity crimes. While they have distinct origins and focuses, they share a common goal of protecting civilians and upholding human dignity. By strengthening the intersection between these two frameworks, the international community can move closer to realizing the promise of "never again" in the face of genocide, war crimes, ethnic cleansing, and crimes against humanity.

5.2. AI Warfare and the Threat to R2P and IHL Principles

The rapid advancement of artificial intelligence (AI) is poised to revolutionize warfare, presenting both opportunities and significant challenges. While AI offers potential benefits like increased precision and can reduced human casualties, its integration into military systems raises profound concerns about its impact on Responsibility to Protect (R2P) and International Humanitarian Law (IHL) principles.

As we seen above how Russia and Ukraine with the help of their allies successfully deployed the Artificial Intelligence in the arena of war. AI is being integrated into various aspects of military operations, from target identification and analysis to autonomous weapon systems (AWS). AWS, in particular, are at the forefront of ethical debates. These systems are designed to select and engage targets without human intervention, raising fundamental questions about accountability, human control, and the potential for unintended consequences. The integration of AI into warfare poses several threats to:

1. Distinction: The principle of distinction requires belligerents to distinguish between combatants and civilians, and to direct attacks only against military objectives. AI systems, particularly those relying on machine learning, can struggle with this distinction. Machine learning algorithms are trained on data, and if that data is incomplete, biased, or manipulated, the AI system may misidentify civilians as combatants or vice versa. For example, an AI system trained on images of soldiers might struggle to distinguish between a soldier in civilian clothing and a civilian carrying a weapon for self-defence. Furthermore, the increasing blurring of lines between combatants and civilians in modern conflicts, with the rise of non-state actors and hybrid warfare, makes the task of AI systems even more complex (Gomez, 2020).
2. Proportionality: The principle of proportionality prohibits attacks that are expected to cause civilian casualties or damage to civilian objects that are excessive in relation to the concrete and direct military advantage

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anticipated. Assessing proportionality requires nuanced judgment and an understanding of the context of the attack. AI systems, especially AWS, may struggle to make such complex assessments. They may be programmed to prioritize military advantage over the potential harm to civilians, or they may simply lack the contextual awareness to make informed decisions. For instance, an AI system might calculate that destroying a bridge has a significant military advantage, but it might fail to adequately consider the impact on the civilian population who rely on the bridge for essential services (Ethics of Emerging Technologies on the Battlefield, 2023).

3. Precaution: The principle of precaution requires belligerents to take all feasible precautions to avoid, and in any event to minimize, incidental loss of civilian life, injury to civilians, and damage to civilian objects. This includes verifying that targets are military objectives and taking measures to protect civilians from the effects of attacks. AI systems may undermine precaution in several ways. The speed and autonomy of AWS can reduce the time available for human review and oversight, potentially leading to hasty decisions and a lack of due care. Furthermore, the reliance on AI-generated intelligence may create a false sense of certainty, leading commanders to underestimate the risks to civilians (Winter, 2022).
4. Humanity: The principle of humanity prohibits the use of weapons or tactics that cause unnecessary suffering. AI systems, particularly AWS, raise concerns about their potential to violate this principle. The lack of human control in AWS raises the possibility of unintended harm and suffering. For example, an AWS might malfunction and attack a civilian target, or it might make a decision that a human soldier would never make, causing unnecessary pain and suffering. Moreover, the dehumanization inherent in delegating lethal decisions to machines raises ethical concerns about the erosion of human dignity and the potential for increased brutality in warfare.
5. Accountability Challenges: The use of AI in warfare makes it challenging to establish accountability for violations of IHL. Determining responsibility when an AI system makes a mistake or causes unintended harm can be complex.

Examples: If an AI-powered drone malfunctions and attacks a civilian target, it can be difficult to determine who is responsible: the programmer, the commander, or the machine itself?

The war in Ukraine has demonstrated both the advantages and significant risks associated with modern technologies, particularly artificial intelligence (AI). While AI has played a crucial role in military operations, it has not necessarily contributed to a reduction in casualties. According to Ukraine's Commander-in-Chief, Colonel General Oleksandr Syrskii, as of December 30, 2024, approximately 427,000 Russian soldiers had either been killed or wounded in the war. However, the independent Russian website Mediazona, which compiles data using open-source research, confirmed the deaths of at least 31,481 Russian soldiers between January 1 and December 17, 2024. Mediazona verifies its findings through obituaries, statements from local authorities, and public reports. On the other hand, Ukrainian President Volodymyr Zelenskyy stated in a Telegram post on December 8, 2024, that around 43,000 Ukrainian soldiers had lost their lives since the conflict began in February 2022 (Shamim, 2025).

Civilian casualties have also been devastating—according to the UN Human Rights Monitoring Mission in Ukraine (HRMMU), as of August 31, 2024, at least 11,743 civilians had been killed, and 24,614 injured due to conflict-related violence. (Ukraine: Worsening Impact on Civilians of Russia's Attack, Torture of Prisoners of War, 2024). These figures highlight that AI has not been effective in significantly reducing wartime casualties.

Beyond its role in armed conflicts, AI also raises concerns regarding human rights and democratic values. For instance, Clearview AI has faced global criticism for its privacy practices. Italian authorities fined the company €20 million for violating EU consumer privacy laws and ordered the deletion of all data related to Italian residents. Similarly, regulatory bodies in the UK and France have

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demanded that Clearview AI cease processing user data. In the United States, the company is currently facing a lawsuit in a federal court in Chicago under the Illinois Biometric Information Privacy Act. The case questions whether Clearview AI's collection of images from the internet violates privacy laws, raising broader ethical and legal concerns about AI's impact on personal data security (Bhuiyan, 2022).

1. Conclusion and Suggestions

The integration of Artificial Intelligence (AI) into warfare presents both a transformative opportunity and a grave challenge to the established principles of R2P and International Humanitarian Law (IHL). While AI can significantly enhance military capabilities in terms of precision, speed, and efficiency, it also brings to the forefront a series of legal, ethical, and humanitarian concerns. These concerns are particularly critical when it comes to the core IHL principles: distinction, proportionality, precaution, and humanity. The deployment of AI-powered autonomous weapon systems (AWS), drones, and surveillance technologies presents fundamental risks to these principles, calling into question their effectiveness and adherence in modern warfare.

In this context, the ongoing conflict in Ukraine exemplifies the real-world implications of AI on warfare and IHL. Both Russia and Ukraine have utilized AI technologies, such as drones and facial recognition systems, in ways that raise concerns about the risks to civilians, the lack of accountability, and the possibility of misidentification and unintended harm. These developments underscore the urgency for international regulation, transparency, and accountability in the use of AI in warfare.

Some of the most critical threats posed by AI are to the principle of distinction—the requirement that combatants distinguish between military targets and civilians or civilian infrastructure. The principle of proportionality faces similar challenges in the age of AI warfare. While AI systems can be programmed to calculate the military advantage of an attack, they may lack the nuanced understanding of context needed to assess proportionality effectively. The principle of precaution emphasizes the obligation to take all feasible measures to avoid or minimize harm to civilians. However, AI's rapid speed and autonomous capabilities can undermine the time available for human oversight and decision-making. The principle of humanity, which prohibits the use of weapons or tactics that cause unnecessary suffering, is also significantly impacted by the advent of AI in warfare. Autonomous weapon systems, while promising enhanced precision, could also malfunction or be misused, leading to unnecessary harm. The ethical concerns surrounding the dehumanization of warfare are also profound, but perhaps the most pressing concern in the integration of AI into warfare is the challenge of accountability. In traditional warfare, accountability for violations of IHL typically rests with the individuals who make decisions, such as military commanders or political leaders. However, in AI-driven warfare, the line between human decision-makers and autonomous systems becomes blurred.

Given the grave concerns raised by AI in warfare, the international community must take immediate action to address these challenges. The development and deployment of AI technologies in military contexts must be subject to clear regulations and ethical guidelines that align with the principles of IHL. The following suggestions outline key steps that should be taken to ensure that AI in warfare respects humanitarian principles and upholds the rule of law.

Develop International Standards for AI in Warfare: The international community must develop clear, binding standards for the development, testing, and deployment of AI technologies in warfare. These standards should address key concerns such as ensuring human control over autonomous systems, transparency in decision-making, and mechanisms for accountability. These standards must be aligned with existing IHL frameworks and should be designed to prevent abuses and violations.

Ensure Human Control and Oversight: Human control over the use of lethal force is a fundamental requirement of IHL. AI should never be given full autonomy to make life-or-death decisions without human intervention. While AI can assist in targeting and surveillance, humans must retain ultimate

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control and responsibility for all military actions. It is essential that systems are designed in such a way that human commanders are able to intervene at every stage of the decision-making process.

Promote Transparency and Explainability: AI systems used in warfare must be transparent and explainable. The international community should develop guidelines that ensure AI systems are auditable, and that their decision-making processes can be understood and scrutinized. This would allow for greater accountability in the event of mistakes or violations. Transparency would also foster trust among states and the general public, reducing the risk of misuse.

Strengthen Accountability Mechanisms: Clear accountability mechanisms are needed to ensure that individuals or entities are held responsible for violations of IHL involving AI systems. National and international legal frameworks must be adapted to address the unique challenges posed by AI in warfare. This may involve updating existing laws or creating new legal frameworks to address the responsibilities of programmers, commanders, and other actors involved in the deployment of AI-powered military systems.

Encourage International Dialogue and Cooperation: The deployment of AI in warfare is a global issue that requires international cooperation. States must engage in open dialogue to establish common norms and standards regarding the use of AI in military operations. This dialogue should involve governments, military experts, international organizations, and civil society, including human rights groups, to ensure that all perspectives are considered.

Promote Research and Development of Ethical AI: As AI technologies continue to evolve, it is essential that research efforts focus on developing ethical AI systems that align with humanitarian principles. This includes researching ways to mitigate biases in AI algorithms, improving the accuracy of AI systems in identifying targets, and developing AI systems that prioritize the protection of civilians and compliance with IHL.

Enhance Training and Education on AI and IHL: Military personnel, policymakers, and AI developers must be educated about the legal, ethical, and humanitarian implications of AI in warfare. Training programs should focus on ensuring that AI technologies are used in ways that comply with IHL and protect human rights. Moreover, IHL education must be integrated into military training to ensure that all stakeholders are aware of their obligations under international law.

The ongoing conflict in Ukraine provides a crucial test case for the future of AI in warfare. Both Russia and Ukraine have used AI-powered systems in various aspects of their military operations, highlighting the risks and challenges outlined in this article. The use of drones, facial recognition technologies, and autonomous weapon systems raises significant questions about the protection of civilians, the principle of distinction, and the accountability of states involved in the conflict.

The international community must learn from the ongoing conflict in Ukraine and use it as a basis for developing stronger norms and regulations for AI in warfare. The lessons learned from this conflict will be essential in shaping the future of AI in armed conflict and ensuring that humanitarian principles are respected.

The integration of AI into warfare is an inevitable development, but it must be approached with caution and a commitment to upholding the core principles of IHL. AI systems have the potential to revolutionize military operations, but their deployment must not come at the cost of civilian protection, accountability, and respect for human dignity. The international community must act now to ensure that the use of AI in warfare is governed by clear ethical and legal standards, with a focus on transparency, human control, and the preservation of humanitarian values. The future of warfare and the future of humanity-depends on it.

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