



Warfare in the Age of Artificial Intelligence, Robotics and Autonomous Weapons: Strategic, Ethical and Security Challenges

Dr. Shivendra Shahi

Assistant Professor, Dept. of Defence and Strategic Studies, Shri Varshney College, Aligarh

DOI : <https://doi.org/>

ARTICLE DETAILS

Research Paper

Received: 19-05-2026

Accepted: 27-06-2026

Published: 15-07-2026

Keywords:

Artificial intelligence, autonomous weapons, robotics, future warfare, military technology, human control, cyber warfare, multi-domain operations, strategic stability, international humanitarian law.

ABSTRACT

Warfare has always been shaped by scientific discovery and technological innovation, but the contemporary transformation is different in speed, scale and depth. The emergence of artificial intelligence, robotics, autonomous weapons, cyber systems, unmanned platforms, big data analytics, space-based assets and algorithmic decision-making is producing a new pattern of warfare in which machines increasingly observe, decide, recommend and act within military operations. The battlefield is no longer confined to land, sea and air; it now extends into cyberspace, outer space, the electromagnetic spectrum, information networks and human cognition. This chapter examines the changing character of warfare in the age of artificial intelligence, robotics and autonomous weapons. It analyses how advanced science and technology are reshaping strategy, command and control, deterrence, military ethics, international humanitarian law and global security. The chapter argues that the future of warfare will not be fully machine-driven, but it will be deeply human-machine integrated. The central challenge before states and international institutions is to preserve human judgement, legal accountability and strategic stability in an environment where speed, automation and technological competition are becoming decisive

Disclaimer: The opinions, interpretations, conclusions, recommendations, analyses, and statements expressed in this research article are solely those of the author(s) and do not reflect the views, policies, or positions of the Publisher, Chief Editor, Editors, Editorial Board, Reviewers, or their affiliated institutions. The author(s) are solely responsible for ensuring the originality, authenticity, and integrity of the manuscript and for ensuring that it is free from plagiarism, AI-generated content, copyright infringement, data falsification, and any other form of academic misconduct.

Introduction

War has never been static. From the use of iron weapons to gunpowder, from the industrialisation of armies to nuclear deterrence, and from air power to cyber operations, every major transformation in science and technology has altered the way political communities organise violence. However, the present technological transformation is more complex than earlier military revolutions because it is not limited to a single weapon, platform or domain. Artificial intelligence, robotics, autonomous systems, cyber capabilities, quantum communication, satellite networks, biotechnology, drones and data-driven surveillance are collectively changing the structure, speed and logic of warfare.

The phrase “new patterns of warfare” refers not merely to the introduction of new weapons but to the transformation of the methods, actors, spaces and decision-making processes of war. In traditional warfare, human beings remained the direct centre of observation, judgement and action. In contemporary warfare, human decision-making is increasingly supported, accelerated, filtered or even partially replaced by algorithmic systems. Machines can now collect data, detect patterns, classify targets, navigate terrain, coordinate swarms, conduct surveillance and support military decision-making at speeds that exceed human cognitive capacity. Artificial intelligence does not replace strategy, but it changes the environment in which strategy operates. Robotics does not remove soldiers from war, but it redistributes risk between humans and machines. Autonomous weapons do not eliminate political responsibility, but they complicate the relationship between command, control and accountability. Therefore, the age of AI-enabled warfare must be understood as an age of both opportunity and danger. It offers possibilities of precision, force protection, rapid response and better situational awareness. At the same time, it raises serious ethical, legal and security concerns regarding civilian protection, algorithmic bias, accountability gaps, arms racing, escalation and the possible erosion of meaningful human control. This chapter explores these issues in a systematic manner. It begins with the conceptual background of warfare and technological change, then examines the emergence of AI, robotics and autonomous weapons. It further analyses the strategic, ethical and security challenges that arise from these technologies and concludes by suggesting a responsible governance framework for future warfare.

Conceptualising the Changing Character of Warfare

The nature of war, as Clausewitz argued, is rooted in politics, violence and uncertainty, but the character of war changes according to historical conditions, technology, social organisation and strategic culture

(Clausewitz, 1976). The distinction between the nature and character of war is important. The nature of war refers to its enduring features: political purpose, organised violence, friction, uncertainty and human suffering. The character of war refers to the changing means, methods and operational patterns through which war is fought. In the twenty-first century, the character of war is shifting from platform-centric warfare to network-centric and algorithmic warfare. Earlier military power depended heavily on the size of armies, number of tanks, warships, aircraft and missiles. These still matter, but their effectiveness increasingly depends on sensors, data links, artificial intelligence, cyber resilience, satellite connectivity and automated decision-support systems. In other words, the centre of gravity is moving from mere possession of platforms to the ability to integrate platforms into intelligent networks. Modern warfare is also becoming multi-domain. Land, sea and air operations are now deeply connected with cyber, space and the electromagnetic spectrum. A military operation may begin with a cyber intrusion, continue with satellite surveillance, involve drone reconnaissance, use AI-assisted target analysis and end with a precision strike. This means that the boundary between physical and non-physical warfare is becoming blurred. The battlefield is no longer a geographically fixed location; it is an interconnected system of sensors, networks, platforms, data and human decision-makers.

The changing character of warfare can be understood through the following comparative framework:

Traditional Pattern of Warfare	Emerging Pattern of Warfare
Human-centred observation and decision-making	AI-supported observation and algorithmic decision-making
Platform-centric military power	Network-centric and data-centric military power
Clear distinction between warfront and home front	Blurring of military, civilian, digital and cognitive spaces
Limited battlefield visibility	Persistent surveillance through drones, satellites and sensors
Slow command cycles	Accelerated decision cycles and machine-speed operations
State monopoly over high-end military technology	Wider access to drones, cyber tools and dual-use technologies
Physical destruction as the main objective	Combination of kinetic, cyber, informational and psychological effects
Human combatants as primary battlefield	Human-machine teams, robots, drones and autonomous

Traditional Pattern of Warfare	Emerging Pattern of Warfare
actors	systems

The new pattern of warfare is therefore not simply “high-tech war.” It is a transformation in the relationship between human judgement, machine autonomy and political violence.

Artificial Intelligence and the Militarisation of Decision-Making

Artificial intelligence refers to computational systems capable of performing tasks that normally require human intelligence, such as pattern recognition, prediction, classification, learning, language processing and decision-support. In military affairs, AI is being used or considered for intelligence analysis, surveillance, logistics, cyber defence, target recognition, autonomous navigation, predictive maintenance, command and control, simulation, training and information operations. One of the most significant impacts of AI is the compression of the decision-making cycle. Traditional military decision-making follows a sequence: observe, orient, decide and act. AI-enabled systems can accelerate each stage of this cycle by processing large amounts of data from satellites, drones, sensors, communication intercepts and open sources. This creates an advantage for militaries that can identify threats faster, coordinate responses more efficiently and act before an adversary can adapt. However, the acceleration of decision-making is not always strategically beneficial. Faster decisions can also become poorer decisions if commanders rely excessively on machine-generated outputs without understanding their limitations. AI systems are dependent on data quality, algorithmic design, training conditions and operational context. In war, data is often incomplete, deceptive, noisy or deliberately manipulated by adversaries. Therefore, AI may produce false confidence in situations where uncertainty remains high.

AI also creates the problem of opacity. Many advanced machine-learning systems operate through complex processes that are not easily explainable to human users. This “black box” problem is especially dangerous in military settings because life-and-death decisions require reasons, responsibility and accountability. If a commander cannot understand why a system has recommended a particular target or threat classification, the moral and legal basis of action becomes weaker. The militarisation of AI therefore produces a paradox. On the one hand, AI can strengthen military effectiveness by improving speed, accuracy and coordination. On the other hand, it can weaken human judgement if decision-makers become passive recipients of algorithmic recommendations. The danger is not only that machines may act without humans, but also that humans may formally remain in the loop while practically becoming dependent on machine outputs.

Robotics and the Rise of Unmanned Warfare

Robotics has transformed the physical dimension of warfare. Unmanned aerial vehicles, unmanned ground vehicles, unmanned surface vessels and unmanned underwater vehicles are becoming increasingly important in reconnaissance, surveillance, logistics, mine clearance, border monitoring, explosive disposal and combat operations. The most visible manifestation of this transformation is drone warfare. Drones have changed military operations in at least four ways. First, they reduce direct risk to soldiers by allowing remote operation. Second, they provide persistent surveillance over battlefields and borders. Third, they enable precision strikes at relatively lower cost compared to traditional aircraft. Fourth, they allow both state and non-state actors to project power in ways that were previously impossible. The spread of drones has also democratised certain forms of air power. Earlier, only advanced states could use aerial platforms for surveillance and strike missions. Today, commercially available drones can be modified for military purposes by weaker states, insurgent groups and non-state actors. This development has reduced the technological gap between major powers and smaller actors. It has also made military bases, critical infrastructure, border posts, naval assets and urban spaces more vulnerable to low-cost aerial threats.

Robotics is also reshaping military logistics and battlefield support. Autonomous vehicles can transport supplies, evacuate casualties, conduct surveillance in dangerous areas and support soldiers in difficult terrain. In future, robotic systems may increasingly function as teammates rather than mere tools. Human soldiers may operate alongside robotic scouts, autonomous supply vehicles, AI-enabled targeting systems and drone swarms. Yet unmanned warfare does not make war bloodless. It may reduce casualties for the side using robotic systems, but it can increase psychological distance from violence. When operators are physically removed from the battlefield, war may appear cleaner and politically easier to conduct. This creates a moral hazard: political leaders may be more willing to use force when their own soldiers face fewer risks. Thus, robotics changes not only the tactics of war but also the politics of using force.

Autonomous Weapons and the Question of Human Control

Autonomous weapons are systems that, once activated, can select and engage targets without further human intervention. Autonomy exists on a spectrum. Some systems are remotely controlled by humans; some are automated and follow pre-programmed rules; others may use sensors and algorithms to identify and attack targets under defined conditions. The most controversial category is lethal autonomous weapons systems, where machines may play a decisive role in applying lethal force. The core issue is not simply whether a weapon is automatic or intelligent. The deeper question is whether human beings retain meaningful control over the use of force. Meaningful human control requires more than pressing a button. It requires adequate

understanding of the system, awareness of the operational environment, ability to supervise or intervene, clear rules of engagement, legal review and responsibility for outcomes.

Autonomous weapons raise difficult questions under international humanitarian law. The principles of distinction, proportionality and precaution require parties to distinguish between combatants and civilians, avoid excessive civilian harm and take feasible precautions during attack. These principles are context-sensitive and often require human judgement. A machine may detect patterns, shapes, heat signatures or movement, but it may not understand surrender, injury, civilian behaviour, coercion, protected status or the broader social meaning of human action in conflict. Supporters of autonomous weapons argue that machines may eventually become more precise, less emotional and less prone to fear or revenge than human soldiers. Critics argue that delegating lethal decisions to machines undermines human dignity, weakens accountability and creates unacceptable risks for civilians. Both positions recognise that technology alone cannot resolve the moral complexity of war. The central ethical problem is delegation. When a human commander uses a rifle, responsibility is relatively direct. When a commander deploys an autonomous system designed by engineers, trained on data, approved by officials and operating in a dynamic environment, responsibility becomes distributed. If the system makes a wrongful attack, who is responsible—the commander, programmer, manufacturer, state, data provider or machine operator? International law is built around human and state responsibility, not machine agency. Therefore, autonomy must not become a means of avoiding accountability.

New Patterns of Warfare in the AI-Robotics Age

The integration of AI, robotics and autonomous weapons is creating several new patterns of warfare. These patterns do not replace traditional war entirely but coexist with conventional, nuclear, hybrid and irregular forms of conflict.

Algorithmic Warfare

Algorithmic warfare refers to the use of data, machine learning and automated systems to support or shape military operations. It includes AI-assisted intelligence analysis, predictive targeting, automated surveillance, cyber defence, decision-support and battlefield management. In algorithmic warfare, the ability to collect, process and exploit data becomes a decisive source of power. The strategic advantage lies not only in weapons but in information superiority. States that can integrate sensors, satellites, drones, cyber tools and AI analytics may gain faster situational awareness and greater operational tempo. However,

algorithmic warfare also creates vulnerability. If data is corrupted, networks are hacked or algorithms are deceived, the entire decision-making system can be compromised.

Drone and Swarm Warfare

Drone warfare has already become a defining feature of contemporary conflict. The next stage is swarm warfare, where multiple unmanned systems operate in coordinated groups. Swarms may overwhelm air defences, saturate enemy sensors, conduct reconnaissance or attack multiple targets simultaneously. The advantage of swarms lies in numbers, coordination, adaptability and cost-effectiveness. Swarm warfare challenges traditional defence systems because it reverses the cost equation. A cheap drone may force the use of an expensive missile interceptor. A large swarm may exhaust defensive systems even if individual drones are not highly sophisticated. This creates pressure on states to develop counter-drone technologies, electronic warfare systems and directed-energy weapons.

Cyber-Physical Warfare

The integration of cyber operations with physical military effects is another new pattern. Cyberattacks can disable communication systems, disrupt logistics, manipulate data, blind sensors or weaken air defence before kinetic strikes. In cyber-physical warfare, digital intrusion and physical destruction become part of the same operational chain. This pattern is particularly dangerous because cyber operations may be difficult to attribute. Uncertainty regarding the attacker can delay response, create miscalculation or encourage covert aggression. Cyber operations against civilian infrastructure also raise serious humanitarian concerns because electricity, hospitals, water systems and communication networks are essential for civilian survival.

Space-Enabled Warfare

Modern militaries depend heavily on satellites for navigation, communication, surveillance, missile warning and weather data. Space has therefore become an essential military domain. Anti-satellite weapons, electronic interference, cyberattacks on satellite systems and space debris all create new security risks. Space-enabled warfare does not necessarily mean war in space; it means war dependent on space assets. A conflict on earth may begin with attempts to blind or disrupt satellite networks. This creates risks of escalation because attacks on space systems may affect both military and civilian services.

Cognitive and Information Warfare

AI has also transformed information warfare. Deepfakes, automated propaganda, bot networks, micro-targeted influence campaigns and generative AI can manipulate public opinion, weaken trust in institutions

and create confusion during crises. The target is not only the enemy's army but also its society, political leadership and decision-making environment. Cognitive warfare aims to shape perception, emotion and belief. It operates below the threshold of declared war and is often difficult to regulate. In democratic societies, such operations can polarise citizens and reduce confidence in public institutions. In military crises, disinformation can increase panic, misperception and escalation.

Human-Machine Teaming

The future battlefield is likely to be dominated not by machines alone but by human-machine teams. Soldiers, commanders and analysts will work with AI systems, drones, robots and automated platforms. The challenge will be to design systems that enhance human judgement rather than replace it. Human-machine teaming requires trust, but trust must be calibrated. Too little trust leads to underuse of technology; too much trust leads to automation bias. Effective military organisations will need training systems that teach personnel when to rely on machines, when to question them and when to override them.

Strategic Challenges

The rise of artificial intelligence, robotics and autonomous weapons has created serious strategic challenges for modern states. These technologies can increase military speed, precision and surveillance capacity, but they also generate risks of arms race, miscalculation and uncontrolled escalation.

Arms Race and Technological Competition

AI and autonomous weapons are producing a new form of arms competition. Major powers fear that falling behind in military AI could create strategic vulnerability. This fear encourages rapid development, deployment and secrecy. Unlike nuclear weapons, many AI technologies are dual-use, commercially available and difficult to monitor. This makes arms control more complex. Technological arms racing may reduce the time available for legal review, ethical reflection and safety testing. States may deploy systems before they are fully reliable because they fear adversaries will do the same. Such competitive pressure can create a "race to the bottom" in safety standards.

Strategic Stability and Escalation

Autonomous and AI-enabled systems may affect strategic stability by increasing speed and uncertainty. If early-warning systems, cyber tools or autonomous platforms operate too quickly, leaders may have less time to verify information and consider diplomatic options. During crises, false alarms or misinterpreted machine outputs could produce escalation. The risk is particularly serious when AI is connected with nuclear

command, missile defence, cyber operations or space systems. Even if humans retain formal authority, the pressure to act quickly may increase dependence on automated recommendations. Strategic stability requires not only strong weapons but also reliable communication, restraint and time for human judgement.

Diffusion to Non-State Actors

Drones, cyber tools and AI software are not limited to great powers. Non-state actors can use commercial drones for surveillance or attacks, exploit social media algorithms for propaganda and use cyber capabilities for disruption. This diffusion of technology changes the balance between states and irregular actors. The availability of low-cost technologies allows weaker actors to impose high costs on stronger militaries. It also complicates counter-terrorism and internal security because threats may emerge from small groups using commercially available systems.

Vulnerability of Civilian Infrastructure

Modern societies depend on digital networks, satellites, power grids, transport systems, financial infrastructure and communication platforms. AI-enabled cyberattacks or autonomous systems may target these networks directly or indirectly. The distinction between military and civilian infrastructure becomes more difficult when civilian systems support military operations. This creates a strategic dilemma. Attacking dual-use infrastructure may provide military advantage but can also produce large-scale civilian harm. The ethical and legal challenge is to ensure that military necessity does not become an excuse for attacking the foundations of civilian life.

Ethical Challenges

The use of artificial intelligence, robotics and autonomous weapons raises serious ethical challenges because it shifts life-and-death decisions from human judgement to machine-based systems. The most important concern is whether a machine should ever be allowed to select and attack a human target without meaningful human control. Such weapons may create an accountability gap, as it becomes difficult to decide who is responsible for unlawful killing-the commander, programmer, manufacturer or state.

Human Dignity and Machine Killing

The most profound ethical objection to autonomous weapons is that machines should not make decisions about human life and death. Even if a machine can identify a target, it does not understand human dignity, moral responsibility or the tragedy of killing. War is not merely a technical problem of target selection; it is a moral and political act. Delegating lethal force to machines may reduce human beings to data points,

signatures or target profiles. This can weaken the moral restraint that should accompany the use of force. Human dignity requires that decisions involving lethal violence remain under responsible human judgement.

Accountability Gap

Autonomous systems create an accountability gap because harm may result from complex interactions between software, hardware, data, environment and human supervision. If an autonomous system commits an unlawful attack, it may be difficult to prove whether the error came from design, deployment, command judgement, training data or unexpected conditions.

Accountability is essential for justice and deterrence. Without accountability, victims have no remedy and future violations become more likely. Therefore, states must ensure that autonomous systems are designed, reviewed and used in ways that preserve identifiable human and institutional responsibility.

Algorithmic Bias and Discrimination

AI systems learn from data. If training data is biased, incomplete or unrepresentative, the system may produce discriminatory or unreliable results. In civilian contexts, algorithmic bias can affect policing, employment or welfare. In military contexts, it can lead to wrongful targeting and civilian casualties. Battlefields are complex human environments. Clothing, movement, language, heat signatures or digital behaviour may not reliably distinguish combatants from civilians. If AI systems classify people based on flawed patterns, they may reproduce and intensify errors.

Automation Bias

Automation bias occurs when humans over-trust machine outputs. In military operations, commanders may accept AI recommendations because they appear objective, fast or scientific. However, algorithmic outputs are not neutral; they reflect design choices, data limitations and assumptions. Meaningful human control requires active judgement, not symbolic approval. A human operator who simply approves machine recommendations without understanding them does not provide real ethical control. Training, system design and command culture must therefore encourage critical engagement with AI.

Legal and Normative Challenges

International humanitarian law remains the primary legal framework governing warfare. The principles of distinction, proportionality, precaution and military necessity apply regardless of the technology used. However, autonomous weapons create difficulties in applying these principles because they may operate in

unpredictable environments. Weapons review is essential. Under Article 36 of Additional Protocol I to the Geneva Conventions, states are required to determine whether new weapons, means or methods of warfare would be prohibited under international law. Although not all states are party to the protocol, the principle of legal review is widely recognised as a responsible practice.

For AI-enabled and autonomous weapons, legal review should examine not only the weapon's physical effect but also its data, algorithmic behaviour, testing conditions, predictability, explainability, cybersecurity and human control mechanisms. A weapon that performs well in controlled tests may fail in real combat because war is dynamic and adversarial. There is growing international debate over whether new legally binding rules are needed for autonomous weapons. One possible approach is a two-tier framework: prohibition of systems that are inherently unpredictable or designed to target humans without meaningful control, and strict regulation of other autonomous systems through human supervision, operational limits, testing and accountability.

Security Challenges for Global Order

AI-enabled warfare affects global security in several ways. First, it increases uncertainty because states may not know the true capabilities of adversaries. Second, it lowers barriers to entry because some technologies are commercially available. Third, it increases crisis instability because machine-speed operations may compress decision time. Fourth, it complicates arms control because software, data and algorithms are harder to verify than missiles or tanks. Another major challenge is the role of private technology companies. Much of AI innovation occurs in the civilian private sector. Defence establishments increasingly depend on commercial firms for cloud computing, machine learning, data analytics, robotics and cybersecurity. This creates a new military-industrial-technological complex in which private actors influence national security outcomes. Security governance must therefore include not only states but also technology companies, researchers, international organisations and civil society. Responsible innovation cannot be achieved through military secrecy alone. It requires transparency, ethical standards, export controls, legal review and international dialogue.

Implications for India and the Global South

For countries such as India, the transformation of warfare presents both opportunities and challenges. India faces a complex security environment involving continental borders, maritime interests, terrorism, cyber threats, space security and great-power competition. AI, drones, robotics and autonomous systems can strengthen surveillance, border management, maritime domain awareness, disaster response, logistics and

defence preparedness. However, the adoption of advanced military technologies must be balanced with ethical and legal responsibility. India and other Global South countries must avoid becoming passive consumers of imported defence technologies. They need indigenous research, regulatory frameworks, skilled human resources and doctrine suited to their strategic realities. The Global South also has an important voice in international debates on autonomous weapons. Many developing countries are vulnerable to the misuse of drones, cyber operations and AI-enabled surveillance. They have a strong interest in preventing a future where advanced states dominate warfare through opaque technologies while weaker societies bear the humanitarian consequences.

Conclusion

The age of artificial intelligence, robotics and autonomous weapons marks a profound transformation in the character of warfare. War is becoming faster, more networked, more automated, more data-driven and more multi-domain. The battlefield now includes algorithms, sensors, satellites, cyber networks, drones, robots and information systems. Military power increasingly depends on the ability to connect human judgement with machine speed. Yet the central truth remains unchanged: war is a human and political activity. Machines may support decisions, but they cannot bear moral responsibility. Algorithms may classify targets, but they cannot understand human dignity. Autonomous systems may increase speed, but they cannot replace ethical judgement. Therefore, the future of warfare must not be left to technology alone.

The greatest challenge of the coming decades will be to preserve humanity within technologically advanced warfare. States must develop capabilities, but they must also develop restraint. Militaries must innovate, but they must also remain accountable. International institutions must adapt, but they must not abandon the humanitarian principles that limit the cruelty of war. New patterns of warfare are emerging, but the purpose of law, ethics and strategy remains the same: to prevent violence from escaping human control. The age of AI-enabled war demands not only smarter machines but wiser human governance.

/

References

- Allen, G., & Chan, T. (2017). *Artificial intelligence and national security*. Belfer Center for Science and International Affairs, Harvard Kennedy School.
- Arquilla, J., & Ronfeldt, D. (2001). *Networks and netwars: The future of terror, crime, and militancy*. RAND Corporation.

- Asaro, P. (2012). On banning autonomous weapon systems: Human rights, automation, and the dehumanization of lethal decision-making. *International Review of the Red Cross*, 94(886), 687–709.
- Biddle, S. (2004). *Military power: Explaining victory and defeat in modern battle*. Princeton University Press.
- Brundage, M., Avin, S., Clark, J., Toner, H., Eckersley, P., Garfinkel, B., Dafoe, A., Scharre, P., Zeitzoff, T., Filar, B., Anderson, H., Roff, H., Allen, G. C., Steinhardt, J., Flynn, C., Ó hÉigearthaigh, S., Beard, S., Belfield, H., Farquhar, S., ... Amodei, D. (2018). *The malicious use of artificial intelligence: Forecasting, prevention, and mitigation*. Future of Humanity Institute.
- Clausewitz, C. von. (1976). *On war* (M. Howard & P. Paret, Eds. & Trans.). Princeton University Press.
- Cummings, M. L. (2017). *Artificial intelligence and the future of warfare*. Chatham House.
- Department of Defense. (2023). *Directive 3000.09: Autonomy in weapon systems*. U.S. Department of Defense.
- Horowitz, M. C. (2018). Artificial intelligence, international competition, and the balance of power. *Texas National Security Review*, 1(3), 36–57.
- International Committee of the Red Cross. (2021). *ICRC position on autonomous weapon systems*. ICRC.
- International Committee of the Red Cross. (2024). *Autonomous weapons: ICRC recommendations and humanitarian concerns*. ICRC.
- Kello, L. (2017). *The virtual weapon and international order*. Yale University Press.
- NATO Allied Command Transformation. (2023). *Multi-domain operations in NATO: Explained*. NATO.
- Payne, K. (2021). *I, Warbot: The dawn of artificially intelligent conflict*. Oxford University Press.
- Russell, S. (2019). *Human compatible: Artificial intelligence and the problem of control*. Viking.
- Scharre, P. (2018). *Army of none: Autonomous weapons and the future of war*. W. W. Norton.
- Singer, P. W. (2009). *Wired for war: The robotics revolution and conflict in the twenty-first century*. Penguin Press.

SIPRI. (2025). *Autonomous weapon systems and AI-enabled decision-support systems in military targeting*. Stockholm International Peace Research Institute.

Sparrow, R. (2007). Killer robots. *Journal of Applied Philosophy*, 24(1), 62–77.

Taddeo, M., & Floridi, L. (2018). Regulate artificial intelligence to avert cyber arms race. *Nature*, 556(7701), 296–298.

United Nations General Assembly. (2023). *Lethal autonomous weapons systems: Resolution adopted by the General Assembly* (A/RES/78/241).

United Nations General Assembly. (2024). *Lethal autonomous weapons systems: Resolution adopted by the General Assembly* (A/RES/79/62).

United Nations Office for Disarmament Affairs. (2024). *Report on lethal autonomous weapons systems*. United Nations.

Walzer, M. (2015). *Just and unjust wars: A moral argument with historical illustrations* (5th ed.). Basic Books.