

TECHNOLOGIES RESHAPING WARFARE: ARTIFICIAL INTELLIGENCE AND U.S. MILITARY DOCTRINE

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This study undertakes an analysis of the legal and ethical dimensions surrounding the utilization of artificial intelligence (AI) in military technologies, with a specific focus on autonomous weapon systems. Given the accelerating pace of AI development and its concomitant integration into the defense sector, the formulation of international legal norms governing the deployment of these technologies has become a matter of paramount importance. Particular attention is directed towards the existing discrepancies in the conceptualization of autonomous weapon systems between the United States and other international actors, including the People’s Republic of China. This analysis identifies key challenges pertaining to the legal regulation of autonomous weapons, their compatibility with established principles of international humanitarian law (IHL), and the multifaceted issues arising from the integration of AI into contemporary military operations. Furthermore, this study examines various U.S. initiatives and declaratory pronouncements aimed at establishing standards for the safe and ethical application of artificial intelligence within the military sphere.¹ Finally, emphasis is placed upon the exigency of continued global dialogue and enhanced interstate cooperation to ensure the preservation of international security and the mitigation of potential threats to global stability.

Keywords: United States, military doctrines, international humanitarian law (IHL), artificial intelligence (AI), autonomous weapon systems (AWS).

Introduction

Artificial intelligence and autonomous weapons systems are becoming integral components of modern military technologies, offering new opportunities to enhance defense capabilities and security. In recent decades, the United States has been actively integrating AI into the military sphere, with a particular focus on autonomous systems such as unmanned aerial vehicles (UAVs) and combat robots. These technologies not only improve strike accuracy but also reduce risks to military personnel and integrate new strategic approaches at all levels - from tactical to strategic.

The foundation of the modern US military doctrine is the concept of network-centric warfare, where AI helps analyze large volumes of data and optimize the decision-making process. This facilitates faster response to threats, increased strike accuracy, and more effective coordination of actions in complex combat situations. Autonomous weapons systems capable of operating without human intervention are becoming an important element of military strategy, marking a potential revolution in warfare. These technologies are changing traditional approaches to warfare, transforming methods of conducting combat operations and managing armed forces, requiring a revision of existing doctrines and practices.

However, the introduction of autonomous weapons systems poses significant legal and ethical challenges to the international community. Such systems, making decisions without human involvement, may violate fundamental principles of international humanitarian law, such as the principle of distinction (between civilian objects and military objectives) and the principle of proportionality (in the use of force). To avoid unintended escalations and ensure compliance with humanitarian norms, the United States is actively participating in international discussions to develop legal standards governing the use of AI for military purposes.

To this end, the United States is developing and adopting relevant legislation regulating the use of autonomous systems, including bans on the use of lethal autonomous systems without human involvement. This reflects a desire to ensure safety and compliance with international humanitarian norms. For example, the US Congress regularly introduces legislative initiatives aimed at controlling the use of such technologies, taking into account obligations to respect human rights in armed conflict. These measures are necessary to ensure the ethical use of AI in military operations, prevent violations of the law, and ensure proper control over autonomous systems.

Differences in approaches to autonomous weapons between countries, including the United States and China, create additional challenges in developing a unified international standard. In an environment of global instability and technological competition, the need for international cooperation to create legal mechanisms that ensure the safe and ethical use of AI in the military sphere, while maintaining a balance between innovation and adherence to humanitarian principles, is growing stronger.

Thus, the development of AI and autonomous weapons systems in the United States represents not only a significant step in enhancing the combat capabilities of the armed forces but also the beginning of a new technological revolution in warfare. However, this revolution requires a comprehensive approach to legal regulation and the creation of international standards that will ensure the safe use of these technologies without violating fundamental humanitarian principles.

Methods and Materials

This research employed a multifaceted methodological approach, combining functional and logical analysis with deductive and inductive reasoning. This methodological framework enabled a comprehensive examination of the integration of artificial intelligence into military applications and its subsequent impact on international security.

To analyze US normative instruments, such as directives and strategies, as well as international initiatives, a formal-legal and dogmatic approach was adopted. This approach allowed for a rigorous examination of the legal frameworks governing the development and deployment of AI in the military domain.

The hermeneutic method was utilized to interpret the principles of international humanitarian law and ethical norms applicable to autonomous weapons systems and AI in warfare. This interpretive approach facilitated a nuanced understanding of the ethical implications of these technologies.

Results and discussion

Artificial intelligence (AI) is one of the most rapidly developing technologies, presenting both significant opportunities and serious legal challenges. Its impact on warfare is currently a subject of intense debate, seen as a potential revolution that could reshape armies and the conduct of war. Despite substantial efforts and initiatives, including those proposed by the United States regarding military AI, significant discrepancies remain regarding the extent to which AI can fundamentally transform the military sphere. Some theorists posit that AI has the potential for a radical revolution in warfare, while others

contend that its role, though significant, is limited within the framework of existing military strategies and technologies.

A more in-depth analysis requires consideration of not only technological but also legal aspects. This will facilitate an objective assessment of AI's true potential to alter the nature of military operations and strategies. In the context of the United States, despite efforts to regulate and promote the responsible use of AI, contradictions persist regarding its application in autonomous weapons systems and other key military technologies.

The United States has been at the forefront of developing artificial intelligence (AI) technologies, with a particular emphasis on their military applications. According to J. Johnson, annual funding for military AI research is projected to increase by 14.75% until 2025, underscoring the strategic imperative for the US to maintain technological dominance in this domain [1]. E. Kania observes that AI is already being extensively integrated into various military applications, including intelligence, logistics, cyber operations, and weapons management. The deployment of AI in military systems encompasses a wide range of technologies, such as unmanned aerial vehicles, missile defense systems, and partially autonomous weapons systems capable of independently targeting and engaging threats while remaining under human oversight [2].

As noted by R. Steff, automated weapon systems often possess a degree of autonomy, enabling them to autonomously identify targets and initiate engagement. Nevertheless, these systems remain under human control, with operators setting the overarching operational parameters. The implications of this level of autonomy for legal accountability constitute a significant area of inquiry [3].

J. Haner underscores the fact that, despite the widespread adoption of AI-enabled military technologies, the legal status of such systems remains ambiguous and necessitates further legal scrutiny [4]. The emergence of autonomous weapons systems, among other AI-driven military applications, presents a significant challenge to existing legal frameworks. As the US strives to maintain technological superiority in this domain amidst growing geopolitical competition, it must do so within the confines of international law.

R. Waltzman emphasizes the potential benefits of AI when used responsibly, particularly in the defense sector, where it can enhance strategic and operational capabilities [4]. However, critics argue that the current regulatory framework is ill-equipped to keep pace with the rapid advancements in AI and autonomous systems. This aligns with Collingridge's dilemma, which highlights the challenges of regulating technologies whose consequences are often only fully understood after their development [5].

A case in point of this belated regulation is the situation with autonomous vehicles in the United States. Despite the rapid advancement and deployment of self-driving cars, federal legislation has been unable to keep pace. State-level regulations vary significantly, and there is still no unified federal law governing the use of autonomous vehicles. This legal uncertainty hinders mass adoption of the technology and discourages investment.

On the other hand, Porter's hypothesis suggests that stringent regulatory requirements can act as a catalyst for innovation, prompting companies to seek more efficient solutions [6].

A similar parallel can be drawn to the environmental regulations enacted in the United States during the 1970s [7]. The imposition of stringent emissions standards compelled automobile manufacturers to develop new technologies to improve fuel efficiency and reduce emissions, leading to the creation of cleaner engines and accelerating the transition to hybrid and electric vehicles. The introduction of these standards not only mitigated environmental damage but also stimulated technological advancements in the automotive industry.

Analogously, the United States is making significant efforts to integrate artificial intelligence and machine learning into its military strategy, positioning this as a critical element in global competition, particularly against China, which is viewed as the primary strategic competitor. As outlined in the 2022 National Security Strategy, China seeks to reshape the international order and achieve technological and economic dominance [8]. In response, the US has committed to maintaining technological leadership, including in the realm of military AI, which has become an integral component of its military doctrine.

Amidst global instability and the rapid development of artificial intelligence (AI) technologies, international discussions on the military application of AI have largely focused on Lethal Autonomous Weapons Systems (LAWS). Since 2013, the UN Group of Governmental Experts has been actively

engaged in discussing the legal and ethical aspects of using such systems, making it a significant element of the international legal agenda.

In 2022, the UN adopted a resolution calling upon Member States, including the United States, to submit their official positions on the use of lethal autonomous systems. This step reflects the international community's growing concern regarding the potential for autonomous weapon systems to violate the norms of international humanitarian law (IHL), particularly the principles of proportionality and distinction. The UN emphasizes the need to establish clear legal frameworks capable of regulating the use of autonomous systems in armed conflicts, in order to prevent their use for arbitrary attacks and to minimize risks to the civilian population.

The United States, being a leading actor in the development of autonomous technologies, has responded to international demands with corresponding domestic initiatives.

The 2017 National Security Strategy identified AI as a transformative technology that could fundamentally alter the character of warfare and influence the global standing of the United States [9]. Subsequently, the 2018 National Defense Strategy highlighted AI as a technology capable of significantly transforming the conduct of warfare, providing new means of deterring potential adversaries. This strategy emphasizes the development of autonomous weapons systems (AWS) and lethal autonomous weapons systems (LAWS), which, unlike traditional systems, can autonomously identify, select, and engage targets without human intervention. Examples of such systems include the Phalanx and Aegis defense systems, as well as combat drones and autonomous maritime systems capable of making fire control decisions independently [10].

The advent of these technologies poses novel challenges to the existing legal and ethical frameworks governing the use of weapons, demanding a re-evaluation of international humanitarian law. The rapid pace of technological advancement must be considered when regulating the use of weapons, as it can significantly alter the character of warfare and potentially undermine existing international agreements. In response to these challenges, the United States has been proactive in developing strategies to harness the potential of AI, both domestically and in the military sphere, through a variety of legislative and institutional measures. To solidify its leadership in AI, particularly in the military domain, the United States established the Joint Artificial Intelligence Center (JAIC) in 2018. The JAIC is tasked with conducting AI research for national defense, fostering collaborations, and developing ethical guidelines for AI applications in the military. A primary objective of the JAIC is to ensure its activities strike a balance between innovation and ethical standards. This is crucial in the context of military operations, where the uncontrolled or improper use of AI could lead to unpredictable consequences, including violations of international humanitarian law. Furthermore, the strategic emphasis on collaboration with the private sector underscores the US recognition of the necessity to develop technologies in partnership with leading technology companies, thereby enabling innovation and maintaining a high level of competitiveness [11].

Furthermore, the American AI Initiative, launched in 2019, outlines a comprehensive strategy for AI development and deployment. This initiative encompasses a broad spectrum of activities, including technological advancements, research enhancement, ethical considerations, regulatory frameworks, and international cooperation. The goal is to ensure that the United States remains at the forefront of AI innovation and application [12].

In April of the same year, a concrete legislative bill was introduced - the Growth of Artificial Intelligence Through Research Act (GrAITR), supporting research and development in the field of artificial intelligence in the United States, with a focus on its application in national security and defense, through federal agencies such as the National Science Foundation (NSF) and the U.S. Department of Defense, thereby stimulating innovation and strengthening the United States' position in such strategic areas as security, healthcare, transportation, and education. In addition, GrAITR emphasizes the need to ensure the ethical use of AI. In this regard, Sec. 301, Article 2 (c) of the bill imposes requirements on federal agencies to develop measures to prevent abuses related to AI, including through increasing the transparency of autonomous systems and protecting human rights [13].

Further attention to the legal regulation of AI in the defense sphere is also evidenced by the creation in 2021 of the Subcommittee on Cybersecurity, Innovative Technologies, and Information Systems within

the House Armed Services Committee. The Subcommittee was formed to oversee the U.S. Department of Defense's AI policy and ensure compliance with legal and ethical standards when using such technologies in military operations.

The proliferation of artificial intelligence and the ensuing global instability have brought lethal autonomous weapons systems (LAWS) to the forefront of international discussions. Since 2013, a UN Group of Governmental Experts has been exploring the implications of LAWS, culminating in a 2022 resolution calling for member states to articulate their positions.

Specifically, the United States emphasizes compliance with the principles of proportionality and distinction in the application of autonomous technologies in combat operations, which, in turn, serves as a justification for the use of such systems in the context of modern warfare. However, despite these statements, the US continues to develop and deploy new autonomous systems to counter China's growing military capabilities and technological advancements, which raises concerns within the international community.

Particularly, the United States has adopted a «Third Offset Strategy». This strategy seeks to restore strategic balance through the integration of advanced technologies, including autonomous weapons systems, while adhering to principles of proportionality and distinction. By leveraging AI, the United States aims to neutralize China's technological advantages and maintain its global technological leadership. However, this approach involves a reassessment of human control over autonomous weapons, expanding their potential applications in warfare. While AI-powered autonomous systems offer the promise of reduced casualties and enhanced operational effectiveness, the relaxation of controls raises concerns about global security and the potential for a new arms race [14].

China, for its part, is also actively developing AI technologies, including autonomous weapon systems, and positions itself as advocating for the necessity of international agreements to control the application of such technologies, emphasizing the importance of adhering to international norms, including humanitarian principles. The role of the International Committee of the Red Cross (ICRC) in these discussions is equally significant. The ICRC actively supports UN efforts to create legal frameworks for the use of lethal autonomous systems, stressing that such technologies must be used exclusively in compliance with international humanitarian law (IHL). The organization expresses deep concern regarding the application of autonomous weapon systems, pointing to the risks associated with the loss of human control and potential errors in decision-making in combat situations. The ICRC insists that these systems must be strictly regulated and their use remain under full human control to prevent arbitrary attacks and minimize harm to the civilian population. Moreover, the organization underscores the need for international mechanisms to ensure accountability for the use of such technologies, as well as for investigating incidents related to their application.

In response to these challenges, the United States has established a new framework for the utilization of AI in military technologies. Specifically, Department of Defense Directive 3000.09 not only rescinds previously existing restrictions but also permits the expanded deployment of autonomous systems in combat operations, reflecting the U.S. pursuit of bolstering its strategic capabilities amidst escalating competition [15]. In accordance with the Directive, each employment of an Autonomous Weapon System (AWS) must adhere to a series of key principles of international humanitarian law (IHL), including Protocols I and II Additional to the Geneva Conventions of 1949. A central requirement of the Directive is the assurance of «human control» over autonomous systems, guaranteeing that decisions regarding the use of force are made by human personnel, not by the system itself. This aligns with the provisions of Article 57 of Additional Protocol I to the Geneva Conventions of 1977 [16], which mandates that military operations conform to the principles of distinction (between combatant targets and civilian objects) and proportionality (the use of force must be proportionate to the military necessity). Furthermore, Article 36 of Protocol I requires that all new weapons, including autonomous systems, undergo legal review for compliance with international law prior to their deployment. According to the Directive, autonomous systems must be designed to preclude their employment in contexts that could be construed as perfidy. This corresponds to the prohibition on perfidious acts, as stipulated in Article 37 of Protocol I, where perfidy is defined as acts intended to deceive an adversary into believing they are entitled to, or are obliged to accord, protection under the rules of international law applicable in armed conflict, with intent to betray

that confidence [17]. For instance, in the context of autonomous systems, this could entail the use of false signals or the simulation of surrender.

It is also crucial to consider the provision of Article 1(2) of Additional Protocol I, which stipulates that in cases not covered by this Protocol or other international agreements, civilians and combatants remain under the protection and authority of the principles of international law derived from established custom, from the principles of humanity and from the dictates of public conscience. This Martens Clause underscores the necessity of considering humanity and public conscience when employing weapons, including autonomous systems, which should preclude their use in contexts that violate these principles. In this instance, the Martens Clause serves as a universal principle obligating states to adhere to humanitarian norms, even in situations where specific types of weaponry or methods of warfare are not explicitly regulated by existing international agreements [18]. This clause operates as a «boundary» rule, guiding states toward compliance with humanitarian norms, irrespective of whether specific situations or weapons have been addressed by international treaties. Consequently, it addresses the importance of considering moral, ethical, and legal standards in circumstances where novel technologies or methods of warfare may engender legal lacunae or ambiguities in the application of existing norms.

Thus, this Directive integrates key principles of international humanitarian law aimed at ensuring the humane and lawful use of autonomous weapon systems, which is essential for preventing their deployment for perfidious purposes and establishing accountability for their actions. However, the absence of proactive engagement with other states in promoting analogous approaches has circumscribed the potential for greater progress in the field of AI regulation.

The employment of weapon systems incorporating artificial intelligence must be rigorously assessed in light of these principles. Should such weaponry contravene the principles of humanity, jeopardize civilian populations, or fail to comport with the dictates of public conscience, its use would be deemed incompatible with international humanitarian law. Maintaining a balance between technological capabilities and legal and ethical obligations is essential to forestalling potential breaches of humanitarian standards.

Commencing in 2020, the United States initiated efforts to expand platforms for the exchange of expertise concerning the military application of AI, culminating in the establishment of the AI Partnership for Defense. However, participation in this partnership remains circumscribed to 16 states, thereby underscoring the necessity for more extensive international cooperation to attain consensus on regulatory frameworks. In February 2023, the United States promulgated a Political Declaration on Responsible Military Use of Artificial Intelligence and Autonomous Systems, which was subsequently presented at the Responsible AI in the Military Domain (REAIM) summit held in the Netherlands. Initially acceded to by 31 states, the signatory count had risen to 49 by November 2023, encompassing prominent global actors such as the United States, the United Kingdom, and Singapore, as well as developing states such as Malawi, *inter alia* [19].

The Declaration's objective is to establish international norms governing the secure and ethical utilization of AI within military domains. Foundational principles encompass ensuring the reliability and transparency of AI systems, precluding bias, and preserving human control over critical decision-making processes. Specific emphasis is accorded to the mitigation of potential risks, such as unintended escalations or operational malfunctions in autonomous systems.

The United States proposed Declaration on military AI endeavors to establish a basis for international norms and enhance inter-state trust, particularly in the context of nuclear capabilities. The attainment of these objectives requires sustained international discourse and the further elaboration of standards and mechanisms for cooperation, with due consideration for the continuously evolving technological landscape.

While the Declaration lacks binding legal effect, it establishes a framework for future state action and deliberations, serving as a platform for the further promotion of cooperation and the exchange of expertise within this field. The formal adoption of the Declaration through signature is anticipated in 2024.

Notwithstanding the inherent potential of this initiative, several notable challenges remain concerning the implementation of the norms and practices enshrined within the Declaration. Their realization

necessitates the harmonization of disparate interests and the surmounting of technical and political impediments. Furthermore, despite U.S. efforts in the regulation of military AI, divergent conceptualizations of autonomous weapon systems continue to exert a significant influence on international discourse, thereby hindering the attainment of a common understanding and consensus.

These discrepancies are contingent upon the varying perceptions of such systems among states: the U.S. often views them as instruments for augmenting military power and national security, whereas other states, such as China, may perceive them as threats to national security and foreign policy objectives.

It is pertinent to observe that the U.S. Department of Defense's framework fails to adequately address emergent machine learning capabilities, which consequently engenders concerns regarding the predictability and transparency of machine behavior, as well as matters of safety and accountability. The development of intricate and unpredictable military systems raises questions concerning their compliance with the principles enshrined in the Geneva Conventions on international humanitarian law [17]. Therefore, the definition proffered by the U.S. Department of Defense for missile detection systems presents difficulties in accommodating recent advancements in firepower and the complex behaviors exhibited by autonomous systems. Such a definition may constitute an impediment to the advancement of national capabilities in the development of such systems.

In recent years, the United States has assumed a leading role in the integration of artificial intelligence within the military domain, thereby instigating a significant transformation in weapons technologies and approaches to the conduct of warfare. The incorporation of AI into military operations has resulted in a substantial enhancement of the U.S. military's operational effectiveness, as demonstrated by a number of tangible innovations.

Commencing in 1948, the U.S. has pursued the development of autonomous weapon systems incorporating AI and machine learning methodologies. This approach serves to optimize operational capabilities and encompasses computer-based applications for intelligence collection. A notable example is the Aegis ballistic missile defense system, which was introduced in 1983 [20].

Artificial intelligence (AI) has been effectively implemented across a diverse range of military functions, including personnel management, intelligence gathering, logistical operations, communications, and operational planning. By way of illustration, the Dynamic Analysis and Replanning Tool (DART) constitutes an early instantiation of AI utilization within the military context, facilitating the development of deployment plans for troops and materiel during the 1990–1991 timeframe [21].

Subsequent to advancements in AI technologies during the 2000s, the Joint Assistant for Deployment and Execution (JADE), a more advanced instrument designed for force deployment planning and the resolution of logistical challenges, was developed under the auspices of the U.S. Air Force Research Laboratory (AFRL) and DARPA. The primary function of JADE is the generation of preliminary force deployment plan. The United States is also engaged in the expansion of its inventory of AI-enabled autonomous unmanned aerial vehicles (UAVs), including, inter alia, the X47-B, MQ-25, «Loyal Wingman,» «Flocking,» and «Swarming» systems [22].

Current trends indicate a more pronounced utilization of AI in the sphere of technical intelligence as opposed to the development of fully autonomous weapon systems. Project Maven provides a salient example of the implementation of image recognition technology within the context of intelligence operations, whereby AI undertakes the filtering and prioritization of incoming data streams [22]. These unmanned aerial vehicles (UAVs) have been subject to continuous development and refinement through their operational deployment in various military conflicts, including operations conducted in Iraq and Afghanistan [23].

By virtue of advancements in science and technology, contemporary unmanned aerial vehicles (UAVs) have achieved enhanced mobility, operational effectiveness, and the capacity to execute a comprehensive spectrum of missions. Moreover, AI finds active deployment in the realm of cyber operations, whereby AI-based systems possess the capacity to effectively defend military networks against hostile incursions or to initiate cyberattacks themselves. This constitutes an element of an emergent strategy predicated on the utilization of technology for the conduct of “non-kinetic” warfare, which is acquiring increasing salience in contemporary armed conflicts.

Consequently, the integration of artificial intelligence within U.S. military affairs represents not

merely a technological innovation but also a fundamental paradigm shift in approaches to the conduct of warfare. AI technologies facilitate the more precise, rapid, and secure execution of military operations, which, in turn, enables a substantial enhancement of military combat effectiveness and a concomitant acceleration of response times to emerging threats.

Notwithstanding the progress achieved in the development of autonomous weapon systems, discrepancies in approaches and definitions among states constitute impediments to the formation of unified international standards. It is therefore imperative to pursue continued international discourse and to formulate robust legal frameworks that ensure the safe, responsible, and ethical utilization of AI for military purposes, with a view to the development and codification of norms within international humanitarian law.

Conclusion

The development of artificial intelligence and autonomous weapon systems represents a significant advancement in ensuring national defense capabilities, while simultaneously posing a considerable challenge to the international legal framework. The United States, in its pursuit of maintaining technological supremacy, is actively integrating AI into the military sphere, with a particular emphasis on incorporating autonomous weapon systems into its military doctrine. However, the implementation of such technologies necessitates rigorous legal scrutiny, as autonomous systems capable of making decisions without human intervention raise profound questions concerning traditional principles of international humanitarian law, such as the principles of distinction and proportionality, as well as issues of accountability for the actions of these systems.

The ambiguity surrounding the legal status of autonomous systems and the divergence in regulatory approaches among states significantly complicate the process of establishing global standards for their application. While the United States views autonomous systems as a means of enhancing military effectiveness and security, other states, such as China, may perceive them as a threat to their national security. These discrepancies in perception create further complexities in the formation of international agreements aimed at developing unified legal frameworks for the utilization of AI for military purposes.

To address these challenges, resolutions and declarations aimed at restricting the use of lethal autonomous weapon systems have been adopted, reflecting the U.S. aspiration to establish a legal basis capable of preventing unintended escalations of conflict and ensuring accountability for the actions of autonomous systems. These efforts also contribute to international norm-setting in the field of regulating military AI, with an emphasis on adherence to the norms of international humanitarian law.

Furthermore, AI possesses substantial transformative potential, extending beyond autonomous weaponry to impact all levels of warfare. At the strategic level, AI facilitates the analysis of big data, the prediction of adversary actions, and the optimization of military strategies. At the operational level, it enhances troop coordination and improves the efficiency of task execution, while at the tactical level, it contributes to the precision of operations. This has the potential to engender a full-scale revolution in military affairs, altering the modalities of warfare and the management of armed forces.

Therefore, artificial intelligence in the military domain holds considerable potential for the transformation of military strategies and tactics. However, for its effective and safe utilization, it is imperative to develop robust international standards that ensure adherence to humanitarian norms and establish accountability for the use of AI in armed conflicts.

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Данная работа посвящена анализу правовых и этических аспектов использования искусственного интеллекта (ИИ) в военных технологиях, таких как автономные системы вооружений. В

условиях активного развития ИИ и его применения в оборонной сфере, возникает необходимость в разработке международных норм, регулирующих использование этих технологий. Особое внимание уделяется различиям в подходах к определению автономных систем оружия, которые существуют между США и другими государствами, включая Китай. Выявлены проблемы правового регулирования автономных вооружений, их соответствие международному гуманитарному праву и вызовы, связанные с внедрением ИИ в военные операции. Проведён анализ инициатив США и деклараций, направленных на разработку стандартов для безопасного и этичного применения искусственного интеллекта в военной сфере. Особое внимание уделено необходимости продолжения глобального диалога и углубленного сотрудничества между государствами для обеспечения международной безопасности и предотвращения угроз глобальной стабильности.

Ключевые слова: США, стратегические доктрины, международное гуманитарное право, искусственный интеллект (ИИ), автономные системы вооружения (АСВ).

А.М. Хасанай, з.ғ.м., «Конституциялық, халықаралық құқық және кеден ісі» кафедрасының оқытушысы, Қонаев Университеті, (Қазақстан Республикасы, Алматы қ.); Г.Т. Байсалова, з.ғ.к., «Конституциялық, халықаралық құқық және кеден ісі» кафедрасының профессоры, Қонаев Университеті, (Қазақстан Республикасы, Алматы қ.); М.Т. Бейсенбаева, з.ғ.к., «Құқық» кафедрасының қауымдастырылған профессоры, Қазақ ұлттық аграрлық зерттеу университеті, (Қазақстан Республикасы, Алматы қ.): Соғысты өзгертетін технологиялар: жасанды интеллект және АҚШ әскери доктринасы.

Бұл жұмыс жасанды интеллекттің (ЖИ) әскери технологияларда, мысалы, автономды қару-жарақ жүйелерінде қолданылуының құқықтық және этикалық аспектілерін талдауға арналған. ЖИ-нің белсенді дамуы және оның қорғаныс саласында қолданылуы жағдайында осы технологияларды қолдануды реттейтін халықаралық нормаларды әзірлеу қажеттілігі туындайды. АҚШ пен Қытайды қоса алғанда, басқа мемлекеттер арасында бар автономды қару жүйелерінің анықтамасына қатысты тәсілдердегі айырмашылықтарға ерекше назар аударылады. Автономды қару жүйелерін құқықтық реттеу мәселелері, олардың халықаралық гуманитарлық құқыққа сәйкестігі және ЖИ-ді әскери операцияларға енгізуге байланысты қиындықтар анықталды. Әскери салада жасанды интеллекттің қауіпсіз және этикалық қолданылуына арналған стандарттарды әзірлеуге бағытталған АҚШ бастамалары мен декларацияларына талдау жүргізілді. Халықаралық қауіпсіздікті қамтамасыз ету және жаһандық тұрақтылыққа төнетін қауіптердің алдын алу үшін мемлекеттер арасындағы жаһандық диалогты жалғастыру және тереңдетілген ынтымақтастық қажеттілігіне ерекше назар аударылады.

Түйінді сөздер: АҚШ, стратегиялық доктриналар, халықаралық гуманитарлық құқық (ХГК), жасанды интеллект (ЖИ), автономды қару жүйелері (АҚЖ).

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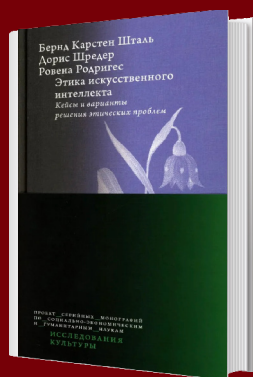
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НОВЫЕ КНИГИ

Бернд Карстен Шталь, Дорис Шредер, Ровена Родригес. Этика искусственного интеллекта. Кейсы и варианты решения этических проблем. М., НИУ ВШЭ, 2024. 200 с.

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Принято считать, что потенциальные выгоды от применения искусственного интеллекта (ИИ) велики: от операционных улучшений, таких как снижение числа человеческих ошибок, до использования роботов в опасных ситуациях. В то же время все понимают, что применение ИИ сопряжено со множеством этических проблем — от предвзятости в работе алгоритмов и цифрового разрыва до проблем здоровья и безопасности. В книге рассматриваются реальные кейсы этических проблем, которые ставит перед нами искусственный интеллект, и варианты их решения.

Разбор кейсов — один из лучших способов изучения этических дилемм и понимания связанных с ними сложностей и точек зрения заинтересованных в работе ИИ сторон.

С учетом всеобъемлющего характера этики искусственного интеллекта в академических, политических, философских и медийных дебатах книга будет полезна широкой аудитории, включая исследователей, представляющих самые различные дисциплины, а также политиков, сотрудников неправительственных организаций, преподавателей и образованную общественность.