



RESEARCH ARTICLE

Challenges of Using Artificial Intelligence in Modern Warfare

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ARTICLE INFO	ABSTRACT
Received: Apr 24, 2024	The modern technologies brought about by the revolution, in particular advanced artificial intelligence systems and machine learning techniques and systems, have altered the structure and nature of nations, and as a result, the approaches taken by various nations to improve their levels of international security and peace have been impacted. The modernization of military thought, or the military doctrine of each nation, and the modernization of its future plans and strategies used in how to manage wars that are commensurate with the requirements of reality have been greatly impacted by the occurrence of fundamental changes in accordance with technological developments
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1. INTRODUCTION

Artificial intelligence has become a very popular concept and has entered into many fields and applications. The science of machine intelligence is not a new science in today's world. The beginnings and attempts of scientists and experts began in 1956 with holding scientific conferences to build complex machines based on computers that have the same characteristics as humans, i.e. the goal was to produce a machine that thinks like we do, and thus artificial intelligence moved from science fiction to reality. Then the stages of development, creativity and technological innovation began to appear in all applications and magazines. Artificial intelligence became a common term in many scientific and even humanitarian fields.

As a result of the tremendous progress in technology and artificial intelligence techniques and because of the big data revolution that has characterized developed countries, especially the United States of America, China, Russia in the field of artificial intelligence and the ability of applications and its use in all fields has resulted in several political, economic, legal, ethical and humanitarian challenges.

Problem of Study: The main problem of the study is to determine (what are the political, economic, legal, ethical and humanitarian challenges resulting from the employment of artificial intelligence in modern wars?)

hypothesis: The study attempts to verify the hypothesis that (the more technical developments in the field of uses of artificial intelligence and its uses in modern wars increase, the more this will lead to the emergence of political, economic, legal, ethical and humanitarian challenges).

Study structure: The topic will be addressed by dividing the research into an introduction and two sections. The first deals with the political and economic challenges of using artificial intelligence in modern wars. The second section will address the legal, ethical, and humanitarian challenges of using artificial intelligence in modern wars, and then a conclusion and results.

The First Topic: the political and economic challenges of using artificial intelligence in modern wars

The technological developments that characterized artificial intelligence during the twenty-first century and the technological technologies associated with digital computing, the Internet of Things, robots, and self-driving systems, have had a tremendous impact on the environment of military revolutions at the level of organization of the armed forces and the change in military doctrines, methods and tactics of combat and on strategies. Modern wars practiced by developed countries, but artificial intelligence in light of these strategies faces several challenges, and these challenges may be complex and diverse, exacerbating bias and discrimination, meaning that these automated systems are programmed based on differential data and other challenges, whether they are political, economic, or political challenges. What will be covered in the following two requirements?

The first requirement: The political challenges of using artificial intelligence in modern wars

The interactions between international units are the main driver of international politics, those interactions that take on a competitive nature, as the most prominent fields of competition between these international units are advanced technology and artificial intelligence, as they have become in the current era one of the most important components of the power of countries, and whoever possesses them has become In his hand are the keys to the other elements of power, and this is due to various reasons, the most prominent of which is that technology is not only important for its own sake, but rather the prominent and large role it plays in various aspects of life and its also prominent impact in doubling the size of the other elements of power, as all of these factors have prompted countries that compete in This field, possessing artificial intelligence techniques, achieving the best scientific achievements in this field, and pumping huge sums of money to develop it, will lead to scientific achievement in this field of knowledge and technology and enable the country to take weight among the ranks of prominent countries in this field or even possess it. The ability to impose the nature of competition on others.¹

The main focus of building artificial intelligence capabilities is to have large amounts of the right kind of data at the moment, and then countries with larger data sets have an advantage in developing superior applications. For this reason, the Economist magazine claimed in 2017 that data has replaced oil. As “the world’s most valuable resource,” providing the right data will enable artificial intelligence to increase the national power of those countries that are able to identify, acquire and apply large data sets of high economic and military importance in order to develop high-performance artificial intelligence systems.²

In light of the artificial intelligence that has been integrated into current operations, whether on the civil or military scene, for this reason many analysts expect continued progress in artificial intelligence, due to the huge amounts of financial and intellectual investment by actors, the many

⁽¹⁾Zeina Malek Oraibi, The impact of technological competition between China and America on the future of the international system, Al-Bayan Center for Studies and Planning, Baghdad, 2023, p. 3

⁽²⁾Michael C. Horowitz And others, Strategic Competition in the Age of Artificial Intelligence, Center for a New American Security, Washington, DC, 2018, p.5

breakthroughs in devices, as well as the increasing data. Size that became available ⁽³⁾ It will raise many political challenges, and these challenges are complex and diverse, as follows:

1 - The state is no longer the sole controller of power capabilities. Artificial intelligence and computing technologies have become capable of providing state-owned military capabilities at a lower cost and even facilitating their circulation. These capabilities are no longer limited to states only, but on the contrary, these capabilities have become Including drones used by non-governmental entities and used by terrorist groups to design computer programs and infiltrate government companies or important companies.

2 - The technological arms race, the development of a new generation of artificial intelligence in conflict has encouraged the development of various types of advanced and different weapons that exceed the speed of sound, and rely on lasers and mainly on robots in the field of manufacturing and operation, which has led to an intensification in recent years of the global arms race between all countries. From the United States of America, China and Russia, as these countries are developing new destructive conventional and unconventional weapons, as well as advanced types of ballistic missiles, as well as air defense systems and drones.

3- Artificial intelligence has become a major player in the war between the major powers, as the United States of America accused Russia of interfering in the elections, and during the Obama administration, the American government accused Russia of interfering in the 2016 American presidential elections in favor of one candidate against another candidate, hacking devices. Piotr Democratic Party, and data about its members and email meeting conversations were leaked, which harmed candidate Hillary Clinton's chances against Trump. Russia denied these accusations ⁽⁴⁾

4 - Change in the balance of power and destabilization. The use of systems based on artificial intelligence can affect the operation of weapons, including nuclear weapons, as artificial intelligence systems can increase the use of nuclear weapons, even if they are not directly linked to nuclear weapons launch pads. This leads to a change in the balance of power, which has so far ensured relative stability.⁵⁾That is to say, integrating artificial intelligence into nuclear systems is a dangerous matter, as allowing artificial intelligence systems to control the use of nuclear defense systems may lead to an increased risk of the use of nuclear weapons ⁽⁶⁾.

5 - The impact of artificial intelligence algorithms on politics and political debate. A company has worked Cambridge Analytica, the data-driven marketing company behind US President Donald Trump's pro-Brexit campaign, seeks to use psychological data extracted from millions of Facebook users to identify key voters ⁽⁷⁾.

⁽³⁾Tim Sweijs, Artificial Intelligence and Its Future Impact on Security, The Hague Center for Strategic Studies, Netherlands, 2018, p.4

⁽⁴⁾Rania Muhammad Taher Ahmed, The impact of artificial intelligence on international security, Journal of Financial and Commercial Research, Volume 23, Issue 3, Port Said University, Egypt, 2022, pp. 248-249

⁽⁵⁾Chapter Eleven:Challenges in Using AI, INSS, 2/9/2022<https://2u.pw/53MoKvN> , 1/20/2024

⁽⁶⁾Gabriele Reitmeier, Artificial intelligence in weapon systems and new challenges for arms control, Friedrich Naumann Stiftung, Germany, Potsdam, 2020, P.6

⁽⁷⁾Mohamed Mohamed Al-Hadi, The Artificial Intelligence and Robotics Revolution: Dimensions, trends, challenges, and education, Egyptian Journal of Information, No. 33, Faculty of Arts, Beni Suef University, 2023, p. 27

The second requirement: The economic challenges of using artificial intelligence in modern wars

The process of digital and economic transformation that involves multiple and diverse algorithms of artificial intelligence are challenges for economic development in the twenty-first century. Over the past years, modern technology has become one of the most important factors of production, and information has become obtained, collected, analyzed, and used consciously, and the continuous development of intelligence algorithms and techniques has become one of the most important factors of production. Artificial intelligence is one of the basic necessities for the economies of countries, and regardless of these advantages that artificial intelligence provides, there are many challenges that result when using artificial intelligence technologies, whether in terms of the cost of development and operation, that is, here smart technologies in many fields require large investments in research and development, It also saves significant costs associated with operating and maintaining smart systems, as they require huge amounts of money"⁽⁸⁾.

It may be difficult to use modern technologies effectively in wars, i.e. the resistance of technology to climatic and environmental conditions is a real challenge, in addition to the use of technology in wars can reduce the need for manpower and thus create economic challenges for countries that rely heavily on labor. In certain sectors, it also leads to cybersecurity challenges, as the use of technology in war requires strong protection of the cyber infrastructure, which leads to challenges for the areas of information security. On the other hand, artificial intelligence technology may exacerbate global economic and technological tensions by intensifying competition between countries for access to information security. on the latest technologies ⁽⁹⁾.

The introduction of artificial intelligence technologies and systems into the armed forces leads to challenges at the economic level. The investment challenges are represented by countries allocating sufficient amounts of money to develop and adopt artificial intelligence systems in their armed forces in line with national defense objectives, meaning that countries should make diligent efforts to double defense spending. By purchasing new equipment that enters into the field of research and development, as for the innovative challenges here, the armed forces must become better at adopting and integrating modern technologies in other fields, and today the inventions and innovations that may be available, including those based on artificial intelligence systems, have become increasingly driven. Increasingly, there are companies that are smaller and more commercially oriented than those previously relied upon by the armed forces of many countries, and by the nature of these companies there is a lack of commercial interest in some specialized, military-related fields ⁽¹⁰⁾.

In addition, this rapid technological development in the field of artificial intelligence poses a major challenge and threat to the labor market and the rights of the workforce, as many robots are now being replaced in various military sectors, and this has contributed to the elimination of many jobs. For example, robots concerned with combating explosives. It has become an essential part of military operations, although previously these tasks were performed by soldiers specialized in this aspect, as the negative effects of artificial intelligence on the workforce cannot be overlooked, as this development in the field of artificial intelligence leads to the removal of many jobs and economic

⁽⁸⁾Philippe Aghion and others, *Artificial Intelligence and Economic Growth*, National Bureau of Economic Research, Cambridge, 2017, P241

⁽⁹⁾Majdalena Owczarczuk, *Ethnical and regulatory challenges amid Artificial Intelligence Development :an Outline of the issues*, *Ekonomia I Prawo Economics And Law*, Volume 22, Issue 2, Poland, 2023, P296

⁽¹⁰⁾Matej TONIN, *Artificial Intelligence Implications For NATO'S Armed Forces*, NATO Parliamentary Assembly, 2019, P.6

inequality. And undermining the rights of soldiers. Artificial intelligence also has the ability to automate various jobs and industries, which contributes to the spread of unemployment and widening social and economic disparities. Low-skilled soldiers who are already vulnerable to exploitation are likely to be the most affected, which will lead to compensating and closing this gap. With artificial intelligence ⁽¹¹⁾.

The second topic: The legal, ethical, and humanitarian challenges of using artificial intelligence in modern wars

The development in artificial intelligence and new technology has led to a change in the nature of wars and their means, as artificial intelligence has become compatible with the requirements of each stage of the development of war, and thus our current era is characterized by the speed of change, which has been greatly reflected in the nature of war in the twenty-first century, This then led to the emergence of new types and models of wars by countries that used artificial intelligence technologies to manage their wars and face challenges and risks, and at the same time created a number of legal, ethical and humanitarian challenges for these uses, which will be explained in the following demands:

The first requirement: the legal challenges of using artificial intelligence in modern wars

Artificial intelligence raises new legal challenges at various levels, represented by the absence of legal regulation and international rules governing this type of systems represented by artificial intelligence techniques, and the extent to which current rules apply to all legal issues that may arise from artificial intelligence, such as intellectual property rights, contractual liability systems, and protection of... Personal data and others, as many workers in the field of artificial intelligence have tried to draw the attention of legal experts to the necessity of seriously formulating new legal rules for artificial intelligence, and excluding the application of traditional rules, their basic argument for this is the reality of the situation that characterizes the technology now ⁽¹²⁾With the passage of time and days, artificial intelligence systems no longer follow or take orders or directives, as systems can malfunction and these systems become dangerous. So what if a product that relies on artificial intelligence systems commits a crime or even an accident, then who bears responsibility, and what if it causes... A self-driving vehicle kills a person and who will be held accountable for this killing?⁽¹³⁾•The future challenge that remains open to the legislator is the legal personality and legal status of artificial intelligence. Thus, international humanitarian law prohibits the use of certain weapons and at the same time prohibits their use at all because it is possible that its rules will not be adhered to and violated, while it has permitted the use of other types of weapons and restricts them to a number of factors. Restrictions, the most important of which is respect for the general principles stipulated in international humanitarian law and international agreements and norms. If these principles and rules are exceeded, then these weapons are prohibited, as these restrictions can be considered as criteria for evaluating the operation of these weapons and measuring the extent of their legitimacy under contractual and customary international rules, and thus prohibiting and prohibiting them. Internationally, if not subject to these standards, perhaps the most important of these restrictions

⁽¹¹⁾ Mick Whitley, Artificial Intelligence and the Labor Market, House of Commons Library, UK, 2023, p. 1

⁽¹²⁾Hamadi Al-Atara and Noun Zaza Al-Zahr, Challenges of Artificial Intelligence for Law, Master's Thesis, unpublished, Faculty of Law and Political Science, Kasdi Merbah University, 2021, p. 1

⁽¹³⁾ Amita Verma, Arpit Bansal, Legal Issues And Challenges Of AI, University Institute of Legal Studies, Panjab University,2020,P1

and standards that can be implemented to ban new weapons in light of international humanitarian law are as follows ⁽¹⁴⁾:

1- The standard of harm, harm, or unjustified pain. Over time, self-driving weapons become unique and more precise in terms of attack and defense, which may cause harm and be a reason for their ban.

2-The criterion of using weapons in a possible indiscriminate manner may result in a violation of the provisions of international humanitarian law.

3-The criterion for damage that is widespread and rapidly spreading, which may cause environmental damage.

Therefore, it is necessary to regulate the legal basis for the use of autonomous weapons, meaning that for the use of such type of weapons, all countries developing and manufacturing this type of new weapons must respect the obligations contained in Article 36 of the First Additional Protocol to the Geneva Conventions of 1977, relating to “new weapons.” This Article affirms the obligation of the Contracting Parties “when studying, developing or adopting a new weapon, instrument of war or method of warfare to ascertain whether this is prohibited in all or some circumstances under this Protocol or any other rule of international law.”⁽¹⁵⁾ However, at the same time, international humanitarian law suffers from a delay in establishing and codifying the basic rules on how to deal with the development of this technology in the field of autonomous weapons, which has begun to spread and has entered most armed and combat strategies of many countries, especially the great powers, and among the existing agreements since Period, and although it is not directly related to this type of weapon, it can be relied upon as it is based primarily on the principles of international humanitarian law, which is the Convention prohibiting or restricting the use of certain conventional weapons that may be considered excessively harmful and have indiscriminate effects, and among the most important principles on which the Convention is based : A- The principle of proportionality between the loss of civilian lives and the expected and direct military areas in the fighting, B- The principle of distinction between civilians and combatants and between public property and military targets, C- The principle of caution, i.e. caution against targeting civilians ⁽¹⁶⁾.

Given the multiple uses of artificial intelligence in all fields, and that artificial intelligence often replaces these procedures carried out by people, legal regulation has become necessary, To avoid such legal loopholes, the European Union proposes that more complex robots could have their own personality, that is, an electronic personality based on artificial intelligence systems, which gives them a set of rights and obligations and can be used in areas where robots make independent decisions, but this proposal is still under discussion. between countries and no solution was reached ⁽¹⁷⁾.

Due to the widespread use of technology and the interface of artificial intelligence, another challenge is protecting data and ensuring cybersecurity, as technology is often used, causing electronic attacks and misuse of data resulting from artificial intelligence, as the more artificial intelligence develops,

⁽¹⁴⁾Qasimi Amal, Weapons enhanced with artificial intelligence technologies in light of international humanitarian law, Algerian Journal of Rights and Political Sciences, Volume 8, Issue 1, Algeria, 2023, p. 211.

⁽¹⁵⁾International Committee of the Red Cross, Additional Protocol I to the Geneva Convention of 12 August 1949 and relating to the Protection of Victims of International Armed Conflicts, Part Three, Article 36.

⁽¹⁶⁾Yasmine Abdel Moneim Abdel Hamid, Legal Challenges to Regulating Artificial Intelligence, “The Case of Autonomous Weapons,” Legal Journal, Volume 8, Issue 9, Algeria, 2020, p. 3510

⁽¹⁷⁾The Legal Challenges of Artificial Intelligence, IURICORN, Gouifo, 1/22/2019, <https://2u.pw/L1D86fR>, 1/25/2024

the greater the risk to privacy. And cybersecurity, as cybercrimes and personal data are considered important topics, and therefore countries have taken some initiatives and legislation to confront the challenges.¹⁸

Accordingly, applications have already begun to develop legal initiatives in this field, but at a slow pace, as the first initiatives were by Saudi Arabia to grant its citizenship to the robot Sophia in 2017, and the European Parliament also approved at the beginning of 2015 special civil rules for robots, as there are no special laws up until this moment. To regulate machines that possess artificial intelligence systems and current legislation does not keep pace at all with the continuous technological development in artificial intelligence techniques. At the level of legislation, in 2012 a number of American states took the initiative to include special legislation for the use of self-driving cars, but the most important legislation for the states The United States of America, which is in effect so far, is known as the "Self-Driving Law," which was approved by the US House of Representatives and is awaiting final approval by the Senate. Under this legislation, it will allow testing about 100,000 self-driving vehicles and collecting the necessary information about them.¹⁹

Then the United States of America, in accordance with the strategic plan that it issued in 2018, worked on a draft law. This project is a challenge in itself, as the focus of legislative efforts has always been on achieving a balance between encouraging innovation and promoting development, and confronting challenges and protecting rights and freedoms, as the purpose of this was The law is to regulate artificial intelligence at the federal level, and this aims to unify the practices followed by countries to regulate the field of research and development in the field of artificial intelligence, as the Artificial Intelligence Initiative Law is the most ambitious effort by the US Congress to promote the development of artificial intelligence performance. As for China, it is among The plan, which I issued in 2017, includes legal aspects. The goal of the plan is to work to create a legal framework and regulation around artificial intelligence, as well as ethical standards and policy systems, and to form capabilities for evaluating or controlling artificial intelligence (AI).²⁰ The Russian Federation has a legal and regulatory framework to confront wide-ranging challenges to ensure cyber security protection against hacking or data spoofing, and against the risk of acquisition by terrorist groups and the risk of the spread of information. The strategy included working to create a legal framework to regulate human-machine interaction to ensure the security of data and technologies. New ⁽²¹⁾.

The second requirement is the ethical challenges of using artificial intelligence in modern wars

The use of artificial intelligence, based on the technologies that it characterizes, such as big data, machine learning systems, and advanced algorithms that include multiple applications of artificial neural networks, has given artificial intelligence the ability to use and improve many fields, and with the technological developments and techniques that it brought, many New ethical issues as many international bodies are trying to establish ethical guidelines regarding artificial intelligence ⁽²²⁾When talking about ethical issues related to artificial intelligence, we mean the assumption that

⁽¹⁸⁾Cybersecurity and Infrastructure Security Agency, 10/27/2020, <https://2u.pw/ir92K70A>, 1/25/2024

⁽¹⁹⁾Hammadi Al-Atara and Nun Zaza Al-Zahr, previously mentioned source, p. 1, p. 52

⁽²⁰⁾Stela Enver Mecaj, Artificial Intelligence And, Legal Challenges, Journal Juridical Opinion, vol 20, no 34, Albania, 2022, P8

⁽²¹⁾National Implementation of the Constitution Principles on Emerging Technologies in the Area of legal Autonomous Weapons Systems, <https://documents.unoda.org>, 1/26/2024

⁽²²⁾Seong Ho Park, Ethical challenges regarding artificial intelligence from the perspective of scientific editing and peer review, Science Editing, Korea, 2019, P1

things that used and exploited artificial intelligence technologies are being talked about in an unethical manner ⁽²³⁾ Therefore, many countries are still grappling with moral, economic, and military challenges, and the seriousness of this situation is exacerbated by policymakers who lack understanding of artificial intelligence technology and its impact. This impact has played a role in proving cases of ethical failure of artificial intelligence, as many companies have used Machine learning systems are being used illegally, and the best example is the impact on the 2016 US presidential elections, and also the US courts using advanced facial recognition programs based on artificial intelligence techniques, as these software systems contain notices of discrimination between black racial groups, and they are considered... One of the issues of racial bias, which is another aspect of violation and unfair discrimination against certain individuals or groups, and also a violation of laws and legal rights ⁽²⁴⁾.

Thus, discussions and treatments have begun by many countries to develop ethical principles to confront the challenges that lead to the illegal use of artificial intelligence, and also to reveal the risks associated with the use of systems that would make decisions on their own without human intervention, or the risks of biased decisions as a result of cycles. Training and development, or the risk of using the automated system for harmful purposes, as a conference was held in California in 2018 to discuss the ethical challenges related to the future of artificial intelligence and the steps that can be taken to ensure the usefulness of the technology. The conference included three topics related to issues of the ethical aspect, which are: research issues, and issues Ethics, values, and long-term issues, these principles already included a call to avoid an arms race, the need to respect human dignity, rights and freedoms, and a demand to ensure that humans choose how to delegate decisions to artificial intelligence and whether this is possible or not, and these have been approved. The principles were developed by 1,800 researchers at the University of California, and more than 3,900 international figures, including Stephen Hawking, Elon Musk, and Jan Tallinn.) ⁽²⁵⁾ When, in 2017, China established the Chinese National Governance Committee to confront the challenges represented by the inappropriate use of artificial intelligence algorithms, which poses a challenge to the protection of biology and the rights of users of artificial intelligence technologies. Therefore, efforts arise to regulate the use of algorithms, as this committee calls for the integration of ethics into all The areas of artificial intelligence must be applicable immediately, as this committee included principles for enhancing ethical awareness about artificial intelligence and behavioral awareness of society as a whole, and directing responsible research to develop artificial intelligence according to ethical standards that must be adhered to, and what is the scope of application to people related to government organizations. Non-governmental, corporate, management, research and development centers protect privacy and security, i.e. protect personal data, personal data must not be collected illegally, and personal privacy rights must be respected)²⁶

The United States of America has launched many initiatives to confront ethical challenges and explore problems and other ethical dilemmas. It has worked to establish an association that provides security protection for computers and networks, and a special institute to study the effects that result from the use of artificial intelligence, especially in the areas of rights, freedoms, and safety. I also worked to establish an institute that maintains human-centered intelligent systems, protects human values

⁽²³⁾ Julian Kinderler, Artificial Intelligence for a Better Future An Ecosystem Perspective on the Ethics of AI and Emerging Digital Technologies, Bernd Carsten Stahl, Monitorfort University Leicester, UK, 2020, P.35

⁽²⁴⁾ Emile Ormond, The Ethical Risks of AI, THE Thinker, Vol. 83, 2020, P5

⁽²⁵⁾ B. C. Stahl, Ethical Issues of AI, Springer Briefs in Research and Innovation Governance, 2021, P37

⁽²⁶⁾ JTan and others, Ethical Problems and Countermeasures of Artificial Intelligence Technology, Web of Conferences, Wuhan University of Technology, 2021, P3

and principles, and prioritizes ethical considerations of human rights, well-being, and awareness of abuse.²⁷.

The Third Requirement: humanity to use artificial intelligence in modern wars

The power of countries in the past years was linked to military power, which was essentially dependent on traditional military methods in waging war, which was based on the abundance of the human element and the ability to fight, and arming it with military equipment such as light and heavy weapons, tanks, artillery, and armored vehicles, and despite From this traditional military method of waging wars, it has led to great human tragedies that have harmed many countries, starved people and destroyed nations. The simplest example of this is the two world wars and the extent of the destruction they caused and the great human tragedies, but at the present time this method has begun. The military role in waging wars is changing gradually, especially in the Cold War period and the era that followed, as new tools began to appear that were the reason for strengthening military power, expanding the scope of its effects, and increasing the intensity of its lethality, for example electronic warfare, drones, and other systems that operate with intelligence. artificial ⁽²⁸⁾.

It is possible that new weapons technologies will lead to a change in the efficiency and speed of killing the other party in wars and contribute to destabilizing the international system, as today the artificial intelligence technologies used in the military are considered one of the weapons that are compared to weapons of mass destruction ⁽²⁹⁾ These deadly technologies and weapons that rely on artificial intelligence techniques, which are independent and determine, select, and kill human targets without any human role in them or partial human intervention, are considered by some researchers to be weapons that pose a threat to humans, and that is the result of errors that may occur in them that may lead to Hitting the wrong targets, especially those weapons that do not involve humans, and giving them the final command to hit the target, such as defensive systems that operate independently without any human activity, relying on artificial intelligence techniques ⁽³⁰⁾.

We conclude from the above that the modern technologies brought by the revolution, advanced technology in general, and machine learning techniques and systems enhanced according to artificial intelligence systems in particular, have brought about changes in the structure and entity of countries, and thus this has affected the methods followed by countries to enhance their international security and peace and All levels, by bringing about fundamental changes in accordance with technological developments, as it has had a significant impact through modernizing military thought, that is, the successive military doctrine of each country and updating its future plans and strategies used in how to manage wars that suit the requirements of reality. The United States of America has worked to issue A strategy in order to achieve the best advanced levels in the field of artificial intelligence and during the coming years by creating the latest innovative weapons, and benefiting from the security infrastructure of artificial intelligence, and China, in the field of competition with the United States of America, has not stopped in its endeavor in this field to the point that it has begun

⁽²⁷⁾ Eleanor Bird and others, *The ethics of Artificial Intelligence Issues and Initiatives*, European Union, 2020, P38-39

⁽²⁸⁾ Fahd Hamad Al-Athba, *Foreseeing the Impact of Technological Development on Modern Wars and the Military Power of Small States*, Istirraf Magazine, No. 7, Arab Center for Research and Policy Studies, Qatar, 2022, p. 217

⁽²⁹⁾ Muhammad Muhammad al-Hadi, previously mentioned source, p. 28

⁽³⁰⁾ Walid Abdel Hay, *The Future of Military Technological Development and Its Impact on International Stability*, Al-Zaytoun Center for Studies and Consultations, Beirut, 2023, p. 4.

to surpass it, and on the other hand, during the ongoing war between Russia and Ukraine, and in line with the development of these technologies, Russia worked to base its strategy against Ukraine by strengthening the state's power by using these modern automated systems to enhance decision-making capabilities to make the appropriate decision in real time during the war. However, despite the importance of these technologies, however, faced challenges such as the political challenges that affected the change in the balance of power and the threat to stability due to the increasing risk of using these systems to international security, and the economic challenges represented by the cost and investment that may require large and effective investments, in addition to the legal challenges, as international humanitarian law suffers in difficulty in adopting a legal and legislative framework on how to deal with these systems, and the ethical challenges that were clearly demonstrated through the bias of algorithms and their unethical use, and finally the humanitarian challenges with the impact of these systems on the security and safety of human existence.

CONCLUSION AND RESULTS:

The modern technologies that the revolution brought about, advanced technology in general, and machine learning techniques and systems enhanced according to artificial intelligence systems in particular, have brought about changes in the structure and entity of countries, and thus this has affected the methods followed by countries to enhance their international security and peace at all levels, from the occurrence of fundamental changes in accordance with technological developments, it has had a significant impact through the modernization of military thought, that is, the successive military doctrine of each country, and the modernization of its future plans and strategies used in how to manage wars that are commensurate with the requirements of reality.

However, despite the importance of these technologies, they faced challenges such as the political challenges that affected the change in the balance of power and the threat to stability due to the increased risk of using these systems on international security, and the economic challenges represented by the cost and investment that may require large and effective investments, in addition to the legal challenges as international humanitarian law suffers from difficulty in establishing a legal and legislative framework for how to deal with these systems, and the ethical challenges that were clearly demonstrated by the bias of algorithms and their unethical use, and finally the humanitarian challenges with the impact of these systems on the security and safety of human existence..

RESULTS:

1. Artificial intelligence is one of the most important modern technological tools that have become a reality and not just science fiction. Efforts have been combined to enhance the capabilities of artificial intelligence in order to create machines with capabilities similar to human capabilities. Artificial intelligence is a set of modern techniques and skills aimed at creating a technological system that behaves in a manner It is similar to human intelligence.
2. Technological development and advanced technologies have led to a change in the form and nature of traditional wars, as generations and forms of wars changed generation after generation to the emergence of types of wars under the name modern wars.
3. The interface of artificial intelligence presents a number of challenges that may hinder its progress and development, as some automated systems suffer from biases that may lead to biased and unfair decisions, in addition to there are concerns related to privacy and information protection in how this information is used and protected from risks and violations.

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