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Artificial Intelligence and International Law

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Abstract. Despite all the advantages the use of artificial intelligence brings in the modern era, this phenomenon poses a serious challenge to the key principles of international law. Particularly acute are the issues related to the promotion and protection of human rights in the course of development and use of artificial intelligence, specifically the issue of confidentiality of data used by such technologies. Even though the issue of AI regulation is mostly covered by domestic laws of states, this article argues in support of international legal regulation of this issue, asserting that international law provides an opportunity to find a general and perspective approach to the regulation of this phenomenon at the universal level.

This article attempts to reveal the basic concepts and to analyze the prospects of the current state of AI regulation, as well as to draw cautious conclusions about further development of this issue through the perspective of international law, including the extent to which the current provisions of international law can meet the challenges posed by the use of the latest technologies based on artificial intelligence.

Key words: artificial intelligence; machine learning; international law; human rights; UN

Жасанды интеллект және халықаралық құқық

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Аңдатпа: қазіргі дәуірде жасанды интеллектті қолданудың барлық артықшылықтарына қарамастан, бұл құбылыс халықаралық құқықтың қалыптасқан ұстанымдарына үлкен қауіп төндіреді. Әсіресе, бұл тұрғыда жасанды зердені әзірлеу және қолдану кезінде адам құқықтарына қатысты

мәселелер, атап айтқанда мұндай технологиялар пайдаланатын деректердің құпиялылығы сияқты мәселелер өзекті болып отыр. Жасанды интеллектті реттеу мәселесі негізінен мемлекеттердің ішкі құқығымен шешілгенімен, бұл мақалада осы мәселені шешуге халықаралық-құқықтық бағытта дамыту көзқарасын қолдайтын дәлелдер келтірілген. Бұл құбылысты әмбебап деңгейде де, аймақтық деңгейде де реттеудің жалпы және перспективалы тәсілін табуға мүмкіндік беретін осы халықаралық құқық.

Мақалада тақырыпқа қатысты негізгі ұғымдарды ашуға және қалыптасқан жағдайдың перспективаларын талдауға, халықаралық құқықтың призмасы арқылы аталмыш мәселенің одан әрі дамуы туралы, оның ішінде халықаралық құқықтың қазіргі ережелері жасанды интеллект негізінде жаңа технологияларды қолданумен байланысты қиындықтарға қаншалықты жауап беретіндігі жөнінде қорытынды жасауға әрекет жасалды.

Түйінді сөздер: жасанды интеллект, машиналық оқыту, халықаралық құқық, адам құқықтары, БҰҰ.

Искусственный интеллект и международное право

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Аннотация: Несмотря на все преимущества, которые несёт в себе использование искусственного интеллекта в современную эпоху, этот феномен бросает серьёзный вызов ключевым установкам международного права. Особенно остро в данном контексте стоят вопросы, касающиеся соблюдения и поощрения прав человека при разработке и применении искусственного интеллекта, а именно конфиденциальности данных, используемых подобными технологиями. Хотя вопрос регламентации искусственного интеллекта в основном решается внутренним правом государств, в этой статье приводятся аргументы в поддержку точки зрения о выработке международно-правового подхода к решению этой проблемы. Именно международное право даёт возможность найти общий и перспективный подход к регулированию этого явления как на универсальном уровне, так и на региональном.

В настоящей статье предпринимается попытка раскрыть основные понятия и проанализировать перспективы нынешнего состояния и сделать осторожные выводы насчёт дальнейшего развития указанной проблематики через призму международного права, включая то, в какой степени действующие положения международного права в целом отвечают вызовам, связанным с использованием новейших технологий на основе искусственного интеллекта.

1 Introduction

Artificial intelligence (AI) is a revolutionary technology and a key element of the modern era (UNESCO, 2019, p. 1). The issue of AI technologies has been on the agenda since the 1980s, both at the international level and separately in different States. Even though AI technologies have long been an integral part of modern life the issue concerning their legal regulation remains unresolved. Besides the lack of a universal approach to legal regulation, at this point humanity cannot even decide yet what emotional response should be given to the issue of AI in general. There are numerous debates on whether this phenomenon will eventually destroy humanity (Caughill, 2017; Cellan-Jones, 2014: Lee, 2017), as well as on the potential prohibition or significant restriction of the use of AI technology (Satariano, 2021).

Despite many legal discussions at national levels, from the perspective of public international law, the issue of AI regulation remains largely in the shadows, although most likely for a short time. Most international legal discussions in this area are predominantly focused on the context of autonomous weapons and their use, while other aspects of the problem are deprived of attention (Burri, 2017; Davison, 2017; Docherty, 2020; Ford, 2017; Sassoli, 2014).

The introduction of new technologies always entails a gap between the existing progress and the legal norms governing such technological developments, and artificial intelligence is no exception. In the current era, deep learning algorithms demonstrate huge achievements that are many times ahead of the previous ones (Saadat and Shuaib, 2020). This is complemented by the improvement of hardware, which inevitably leads to a fast progression of the effectiveness of artificial intelligence (Mohsin, 2019, p. 6). The dizzying pace of AI advancement makes the need to develop legal regulation in this area a priority. The law in this regard can guarantee that the functioning and use of such advanced technologies now and soon when the progress reaches an even more advanced level, will not negatively affect people's rights, and that potential negative impact will be mitigated.

Earlier the issue of AI regulation was not acute, however now AI outruns the existing legal approaches (Ponkin and Redkina, 2018). The existing international norms, as well as the legislation of States, are unable to deal with this issue. Thus, artificial intelligence and its increasing impact on various spheres of human life require immediate reflection from the legal point of view. In his article, the author tries to reveal the main concepts and to draw cautious conclusions about the further development of this problem in the modern system of international relations.

2 Materials and methods

The methodological basis of the research consists of both general scientific and special methods. General methods for that matter include synthesis, deduction,

induction, the method of logical and system analysis. The synthesis method was used as a basis to create concepts and classifications. The method of deduction allowed to make a transition from the general study of the phenomenon of artificial intelligence, as well as the features and problems of regulating the processes to the study of these features directly within the framework of international law. The method of induction was used for the purposes of generalizing the conclusions and making the necessary assessments of the relevant phenomena and processes under study.

As for the special methods, the formal-legal method allowed the analysis of the content of the documents and legal norms under the study, while the comparative approach was used to compare the approaches of various scholars and international organizations to the issue of AI regulation.

3 Discussion

3.1 What is Artificial Intelligence?

The question of what artificial intelligence is (Brachman, 2006; Wang, 2008), as well as what should be included in the general and unified definition of this concept still stands (Carrillo, 2020). This issue has been on the agenda for more than 50 years. Scientific and technical research in this area began even earlier, but it is since 1950 that the term "artificial intelligence" has started to countdown (Markoff, 2015, p. 10). This term was coined in 1955 by John McCarthy, Marvin L. Minsky, Nathaniel Rochester, and Claude E. Shannon (Preliminary Report, 2019, p. 15).

Scholars have various approaches to the definition of "artificial intelligence" and often understand it differently. Although researchers intuitively agree that artificial intelligence means creating computer systems that are somewhat similar to the human mind, many of them have different ideas about what exactly this similarity should be (Carrillo, 2020). What has originally been considered science fiction is already a reality. Humanity has long wondered if machines can think, and if a machine can think, then is it really a "machine". The answer to this question is especially relevant in the context of legal regulation development.

Despite disagreements on certain aspects, most researchers agree that artificial intelligence can be considered as computer systems that are somewhat similar to the human mind (Carrillo, 2020). AI technology is not limited to robots and self-driving machines, but rather constitutes an existing cognitive technology that imitates the human mind (Preliminary Report, 2019). That is how the first stage of AI is defined – "artificial narrow intelligence" – the current level of development of such technologies, which simulates the cognitive process of a person (Surden, 2019, p. 1308). AI at this stage can demonstrate brilliant results, but at the same time, such technology is absolutely unaware of what it is doing (Preliminary Report, 2019, p. 16). The next stage of AI is "general" or "strong" artificial intelligence (artificial general intelligence), which corresponds to or even exceeds the level of human intelligence and can solve a wide range of tasks (Surden, 2019, p. 1309). A significant part of the available research is devoted to the consideration of issues related to the potential use of this particular type of artificial intelligence.

Despite the absence of a universally recognized definition of "artificial intelligence" enshrined in an international legal document (Preliminary Report, 2019, p. 15), and that scholars determine its content based on the goals of a specific study, they all generally come to a consensus about its basic characteristics (Preliminary Report, 2019, p.1). Within the framework of UNESCO, AI is defined as "machines capable of imitating certain functionalities of human intelligence, including such features as perception, learning, reasoning, problem-solving, language interaction, and even producing creative work" (Preliminary Report, 2019, p. 1). One of the most capacious definitions (Shestak and Volevodz, 2019, p. 202) is presented by prof. Yastrebov: "the result of human activity, which is a complex set of communication and technological relationships, having the ability to think logically, manage their actions and adjust their decisions in the event of changes in external conditions" (Yastrebov, 2018, p. 41).

The problem of defining the term "artificial intelligence" is also considered within the framework of the activities of international intergovernmental and non-governmental organizations. Among such intergovernmental organizations, in particular, are the United Nations, the World Intellectual Property Organization, the Council of Europe, and others.

The term "artificial intelligence" is also associated with the term "machine learning". Machine learning refers to the ability of a computer to improve its performance without being specifically programmed to do so (Chesterman, 2020, p. 212). Currently, machine learning is the most significant and effective approach in the development of artificial intelligence technologies. More to say, it underlies most of the existing artificial intelligence systems that affect modern society (Baluhto and Romanov, 2019, p. 66).

It should be borne in mind that the terms "artificial intelligence", "machine learning" and others are mostly used in a metaphorical sense, since modern artificial intelligence systems are not literally "intelligent", the same as a machine does not "learn" (Surden, 2019, p. 1311). Such technologies are capable of achieving reasonable results without using intelligence, as we define it in relation to people. Such technologies do not achieve results the same way as a person, but simply simulate mental activity based on the information received and selected patterns. The machine makes the decision that is most suitable for the given conditions. Such a view has shown its effectiveness when performing tasks that have clear and specific parameters which do not require abstract thinking, as is the case with the human mind (Surden, 2019, p. 1322).

Currently, existing technologies relate exclusively to "narrow" intelligence and are adapted to solve only specific types of tasks with certain characteristics (Ruchkina et al., 2021). Understanding this is key for the development of legal regulations for the use of such technologies.

3.2 Potential threats carried by AI

AI is a revolutionary breakthrough that has already brought great benefits to humanity. However, "with great power comes great responsibility". Moreover, such

technologies carry certain risks and threats that should be addressed in a timely manner and even in advance to avoid consequences. Representing a completely new phenomenon, the use of AI carries potential ethical, legal, and technical problems (Ruchkina et al., 2021, p. 29).

The issue of risks should be addressed specifically. To a greater extent, at least now and in the near future the issue does not concern the conquest of power by AI and enslavement of humanity, but more mundane and pressing problems (Ruchkina et al., 2021, p. 29). Most of such concerns relate to a strong AI that does not yet exist (Egorova et al., 2021, p. 254). It is assumed that such systems have a large amount of data and a speedily decision-making process, which makes them convenient to use for criminal purposes (Egorova et al., 2021, p. 254). Furthermore, most of the current risks are not new, but rather intensified old ones.

An example of such risk is the "lack of legal certainty" ("Why did UNESCO develop recommendations on its ethical use", 2020). Systems can act unpredictably regardless of how their creators may have conceived and programmed them. Such predictability is necessary to develop a modern legal approach. In this regard, the task of determining the responsible person becomes more complicated. To date, there are no rules on how to act if such situations arise.

Moreover, there are no specific approaches to the development of AI systems that would avoid discrimination, inequality, bias, opacity (Rodrigues, 2020). Another problem is the issue of data privacy and even its impact on the environment. Storing and processing a large amount of data and the operation of such algorithms require significant computer resources, which, as studies show, leaves a significant "carbon footprint" ("Why did UNESCO develop recommendations on its ethical use", 2020).

3.3 Current regulation of AI at the international level

Any development of new technologies requires special regulation to ensure that the functioning of such technology complies with politics, norms of law, society, ethics, as well as customs. It is necessary to develop a common framework concerning the fundamentals and conditions of the activities of such technologies, assessing the impact of their activities, as well as policies that would help in the development and application of AI technologies. These tasks remain unresolved to this day since experts do not have a common opinion, while the approaches of States vary significantly.

The main problem in the development of policies or guidelines and legal norms in relation to new technology is to maintain a balance between the establishment of appropriate restrictions and the preservation of existing opportunities. In other words, to control the development and functioning of such technologies, while not only ensuring their effective progress but also avoiding the creation of difficulties for their improvement.

The increasing importance of AI makes particularly relevant the issue of legal aspects of its activity to the international community. It would be unfair, however, to state there is a legal vacuum regarding the regulation of artificial intelligence today. These issues are being discussed and even resolved both at national and international levels. Thus, many states (e.g. Canada, China, EU States, Japan, UK, USA, and others),

including Russia (Egorova et al., 2021, p. 252) have started to create and implement national strategies to promote the development and commercialization of AI in order to maintain sustainable economic competitiveness after the inevitable global transition to an artificial intelligence-driven economy (Mohsin, 2019, p. 4).

Despite all of the above, as well as the fact that AI technologies penetrate into various spheres of human activity, States have not yet reached a consensus and have not developed new international legal norms concerning this issue, nor have they changed the existing ones. The phenomenon of artificial intelligence inevitably brings its own changes to questions related to human rights, use of force, health, intellectual property, international labor law, international humanitarian law, and many others (Lewis, 2020, p. 55).

However, the currently existing legal framework regarding AI in most cases affects only the sphere of narrow AI, which includes only unmanned aerial vehicles and autonomous vehicles now (Carrillo, 2020).There is a need for a global strategy concerning AI and codification of related universal legal norms since the currently existing legal approaches are insufficient.

Artificial intelligence devices are inherently transnational and potentially universal in scope, functions, and nature. Since the problem is a cross-border one, it seems that the solution should be found primarily at the international level (Drausova, 2017). Some scholars even support the opinion that AI is an example of "a common heritage of mankind and not something to be appropriated and developed by any individual stat or natural or juridical person" (Carrillo, 2020). The idea of international regulation of the problem is also supported by international organizations and forums (ITU, 2019).

There are at least several reasons that are developed by scholars in favor of the idea that the field of AI should be regulated by international law (Carrillo, 2019). Firstly, it is more convenient due to the general and universal scope of artificial intelligence (Burri, 2017). AI is a transboundary technology, which makes it challenging to delimit the use of AI and to determine the applicable law in each and every State (Carrillo, 2020). Furthermore, domestic law cannot be used and imposed outside the territory of the State.

The second reason is related to the issue of "legal economy" (Carrillo, 2020), which derives from the idea of common international standards and suits well for instance in terms of patent registration. Moreover, all domestic legal systems recognize the primacy of international law, as well as establish procedures for its integration or transformation into domestic law, speaking in favor of this approach.

The third reason is the protection of the safety of all stakeholders involved or affected by AI (Carrillo, 2020). General regulation that is clear to everyone is an immeasurably better solution than separate and fragmentary provisions in accordance with the legislation of each State (Carrillo, 2020).

At the moment, there are no multilateral agreements at the international level (Filipova, 2020, p. 33) that would consolidate general provisions in this area, as well as there is no universally recognized definition of the concept of artificial intelligence (Carrillo, 2020), although some attempts have been made to solve this problem. There are only a few documents offering particular aspects of international legal regulation

in this area, which are considered as "soft law" and thus have a non-binding character (Filipova, 2020, p. 33). Such documents, in particular, are the Okinawan Charter of the Global Information Society adopted by representatives of the "Big Eight" on July 22, 2000, as well as Recommendations on artificial intelligence, developed within the framework of the Organization for Economic Cooperation and Development – OECD on May 22, 2019, as the first intergovernmental standard on artificial intelligence (Filipova, 2020, p. 34). The Council of Europe is also developing a Convention to establish a cross-border regulation of the use of AI technologies within the ad hoc Committee on Artificial Intelligence (CAHAI Progress Report, 2020).

At the universal level, attempts to define the concept of artificial intelligence, as well as the formation of regulation of this issue, are being undertaken within the UNESCO and in a number of other UN specialized agencies, for example, WIPO and others (ITU, 2019). Within the UN, this issue is also raised at the level of Special Rapporteurs, for example, the Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression, the Special Rapporteur on extrajudicial, summary, or arbitrary executions. The issue of confidentiality of data used by AI technologies, which is common both for the UNESCO and all other organizations dealing with this topic, is on the agenda. In this regard, it is particularly worth noting the principles proposed by the Commissioner of the Council of Europe D. Mijatovic on May 14, 2019 ("Unboxing artificial intelligence", 2019).

4 Results and conclusions

In the course of the study, the author attempted to reveal the basic concepts and genesis of the problem of artificial intelligence, as well as tried to analyze the prospects of the current state of AI regulation and to draw cautious conclusions about the further development of this problem through the perspective of international law. The above consideration of the issue demonstrates that the existing regulation of artificial intelligence is not yet sufficient. The evaluation of documents adopted within the framework of different international organizations demonstrates that the attempts to tackle the issue of regulating such technologies are indeed being made at the international level. Most of these attempts are carried out by international organizations e.g. UN and CE, resulting in the form of "soft law", which seems to be the most successful option at the moment since the ambiguous political will of States and the lack of a full understanding of the phenomenon do not yet allow approaching a more global and decisive solution.

The analysis of international law doctrine also shows that the doctrine also experiences a timid increase of attention to the topic of AI regulation. Even though the spotlight has largely been concentrated in the field of international humanitarian law, the scholars now begin to consider the issue from the perspective of international human rights law, international space law, international investment law, etc.

The current situation regarding the attitude of States to AI regulaion does not point to the presence and firmness of political will to solve emerging problems. Consequently, the absence of a single approach to problem-solving, and initially to the

determination of the essence of this problem leads to the lack of a unified methodology for the use of AI and the goals it should serve.

Legal norms are adopted within the framework of national legislation of States, as well as there are a few attempts on the international level. However, due to the scale and nature of this phenomenon, international regulation seems not only more acceptable but also inevitable. Norms on the regional level have a significant value within the framework of resolving this issue since, in the absence of universally international agreement, arrangements can be reached at the regional level.

Generally, there are several strong arguments in favor of international regulation of the issue, among which are: its convenience due to the cross-border nature of AI technologies; the universality of international law; the possibility of unifying the approaches of States to the problem. Although international law has considered the issue of AI mainly through the lens of autonomous weapons, reality demonstrates that the questions posed by such advancing technology are much broader.

The need to develop legal norms is also determined by the fact that the development of artificial intelligence capabilities carries potential threats. Therefore, it is necessary to ensure the observance and promotion of human rights in the development and use of artificial intelligence to prevent their restriction. In particular, the issue of confidentiality of data used by AI technologies is on the agenda of all organizations involved in the development of norms in this area.

In conclusion, despite the plentiful number of doctrinal publications concerning legal regulation of the development, production, and use of artificial intelligence, the time has come for jurisprudence to develop a uniform legal understanding of the phenomenon of AI, as well as to determine its legal status.

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