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**G. Ahmed**

*Professor of Computational Mathematics and Numerical Analysis Faculty of Engineering, Zagazig University, Zagazig, Egypt, P. O. Box 44519*

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## PROBLEMS OF LEGAL REGULATION OF ARTIFICIAL INTELLIGENCE TECHNOLOGIES

**Abrorjon Kushmatov**

Lecturer at Tashkent State University of Law  
a.kushmatov@tsul.uz

*Abstract: This article delves into the intricate landscape of legal regulations surrounding artificial intelligence (AI) and related technologies, acknowledging their transformative potential while also recognizing the significant risks they pose to society. It systematically analyzes international experiences in legal frameworks concerning AI, aiming to identify key trends and issues crucial for the development of effective regulatory measures at both national and international levels.*

*Keywords: Artificial intelligence (AI), Legal regulation, Liability, Global trends, Technological innovation, Human rights, Policy recommendations, Harmonization of regulations.*

Artificial intelligence (AI) technologies are gradually embracing the modern world. Machine learning technologies based on the processing of unprecedented amounts of data are taking methods of analyzing information to a whole new level, and robotics is performing tasks that were previously the exclusive domain of humans, potentially making people's lives more comfortable and creating new benefits.

It is only natural that technological innovations that have such a global impact on the lives of modern humans carry considerable risks. The realization that AI technologies are extremely powerful tools that can bring both great benefit and serious harm to society inevitably leads to the idea that it is necessary to establish a system of normative rules, principles, and restrictions related to the development and application of systems with AI.

The main purpose of this study is to systematize international experience in the legal regulation of the creation and use of artificial intelligence and related technologies, as well as to identify and highlight the main trends and key issues in this area. The results of this analysis may contribute to the formation of the necessary basis for the development of specific methodological and regulatory recommendations both at the national and international levels.

### **Artificial intelligence as a source of risks**

The phenomenon of rapid development and spread of artificial intelligence technologies is not always positively assessed. On the one hand, the optimistic version of AI development assumes the organic integration of robotic devices and AI services into the life of society. On the other hand, the risks emanating from the mass application of AI are sometimes regarded as challenges of such a scale that can threaten the very existence of mankind [3].

Undoubtedly, developers of artificial intelligence systems take several measures to minimize the risks of using the corresponding technologies. However, more global risks of social, economic, and humanitarian nature, as a rule, are much more difficult to assess. Nevertheless, it seems possible to identify the main problem areas of the artificial intelligence industry that have a direct connection with the law. Let us consider the most

significant, in our opinion, aspects of theoretical problems of legal regulation of the development and application of AI and related technologies, which have gained relevance to date.

#### **Liability for acts of artificial intelligence**

Perhaps soon, as at present, most artificial intelligence systems will be used in areas that do not have such a high risk of harm to human life. Such devices include, for example, home robots that perform a variety of household tasks. The problem acquires a completely different coloring, for example, concerning the operation of vehicles with artificial intelligent automatic piloting systems.

The problem of distribution of responsibility for AI actions between its potential subjects - in particular, the developer, the owner, and the direct user - is one of the most acute legal problems of artificial intelligence and related technologies. The task of its settlement, among other things, requires a clear balance of interests of citizens, business entities, and the state.

In general, increasing the security of artificial intelligence systems can be achieved by increasing their openness, explainability, and accessibility for various forms of control. However, such prioritization will require an appropriate fee. First of all, such a policy will affect the efficiency, flexibility, and speed of deployment of AI technologies. In addition, the disclosure of technical features of AI systems poses a threat of infringement of the intellectual rights of their developers and trade secrets of the companies that own the rights to the relevant technologies. Finally, the high requirements imposed on developers and manufacturers of artificial intelligent systems may be unaffordable for small companies, which may significantly slow down the rate of innovation growth [4]. The most promising approach to solving this problem is to increase the openness of only those artificial intelligence technologies, the use of which can potentially affect not only their owner but also other people.

#### **Intellectual legal aspects of AI**

Speaking about the legal aspects of artificial intelligence and related technologies, it is impossible not to mention the intellectual legal issues arising in such a high-tech and innovative sphere. The discussion on intellectual rights arising from the development and exploitation of AI has two main directions: intellectual rights to artificial intelligence technologies and intellectual rights to works "created" by artificial intelligence itself.

Artificial intelligence technologies have long been the subject of public debate in professional circles as well as in the intellectual rights field. The World Intellectual Property Organization (WIPO) has organized several large-scale discussion sessions on intellectual property and artificial intelligence in recent years, and the Organization for Economic Cooperation and Development (OECD) has opened a platform for policy discussions on AI technologies [5].

Nevertheless, the issue of the intellectual property regime of AI is far from being resolved. At present, in the absence of special norms, the fate of the intellectual-legal status of artificial intelligence is determined more by its form than by its content. Thus, most likely, an AI system inseparably connected with a certain physical shell (for example, the body of a robotic device) and an AI system available for distribution on different carriers and use on different computing devices similar to a traditional computer program will have different legal protection regimes.

Scientific literature suggests that artificial intelligence may well face the same future as computer programs. The latter, despite their enormous role in scientific and technological progress and the transformation of society, have never received a special

regime of legal protection. Instead, computer programs are still subject to the copyright regime, which equates them with literary works from the point of view of intellectual rights protection.

However, AI technologies are not limited to computer programs. A significant part of them are inventions that allow optimizing the solution of computational and other technical problems using modern methods and algorithms. Many of such inventions become subject to patent rights: for example, according to WIPO, as of 2019, around 340,000 patent applications containing AI-related technologies were filed worldwide. At the same time, more than half of these applications were published after 2013.

Thus, the diversity of the concept of "artificial intelligence" leads to the fact that the regime of the legal protection of AI in each specific case depends on the expression of the application of this technology: a computer program, a robotic device, an innovative algorithm, etc. However, the question of what will be the legal status of artificial intelligence, which includes several objects of intellectual rights with different protection regimes, remains unresolved.

The situation becomes even more complicated when artificial intelligence acts not as an object, but as a subject of a kind of "intellectual activity". We are talking about cases when artificial intelligence creates works that can be said to be unique and even, in a way, to have artistic value. In any case, the commercial value of some such works has long been backed up by practice: for example, in March 2021, a digital painting painted by the robot Sophia was sold for more than \$688,000, which in 2017 became widely known due to rumors of her obtaining Saudi Arabian citizenship.

Despite the ongoing development of artificial intelligent systems capable of at least mimicking creative activity, the question of the figure of the author of such works remains unresolved. It is possible that the debated idea of granting AI legal personality could contribute to some extent to solving this problem. However, under the current conditions, the works created by artificial intelligence, in a certain sense, remain works without an author. The issue of distribution of exclusive intellectual rights to these works is as complicated as the issue of distribution of responsibility for AI actions, due to the presence of at least several subjects who have some grounds to claim these rights, in particular: the user, the owner, the developer of AI program code, etc.

Global trends in the legal regulation of AI and related technologies

Today, the need to develop a regulatory landscape for the sustainable development of the AI industry has become obvious, so every state interested in maximizing the benefits of AI and related technologies has already started working on the legal regulation of the relevant sphere. Today, more than 30 countries have their strategic documents in the field of AI technology development. At the same time, the existence of a national AI development strategy is not a prerequisite for the development of legal regulation of artificial intelligence and related technologies. Some countries choose a different approach to this task, focusing on direct action norms that allow regulating point aspects of the development and operation of robots and artificial intelligence, or seek to find a balance between strategic planning and direct response [1].

The most advanced countries in the field of AI and related technologies, such as the United States, the United Kingdom, the European Union, China, Japan, and South Korea, already possess a whole set of regulations and project documents aimed at regulating relations on the development and use of AI [6]. The enthusiasm demonstrated by the leading states of the world with the introduction of new strategic and applied documents in this area is not without criticism. Foreign literature notes not only the



obvious fact that quantity does not mean quality but also the problem of incessant multiplication of normative acts, competent authorities, special instances, and expert groups related to the field of artificial intelligence, which also does not simplify the task of tracking the numerous changes, proposals, and initiatives that increasingly arise in this sector of expert-legal and standard-setting work [2].

In our opinion, the difficulties resulting from the increasing complexity of the organization of expert and regulatory activities in the field of AI in recent years are a natural payment for the creation of a comprehensive regulation of the development and use of artificial intelligence and robotics. The speed of development of the AI industry is such that the leading states of the world have to allocate significant administrative and financial resources to solve the tasks related to building an effective regulatory framework for sustainable growth of the national AI technology sector.

The conducted analysis allows us to conclude that at the moment several fundamental problems of legal regulation of artificial intelligence remain unresolved. Perhaps, one of the results of the large-scale normative work organized by the largest states of the world will be the finding of reliable approaches to the resolution of those complex theoretical and legal issues that fill the subject of legal aspects of artificial intelligence and related technologies. Initiatives of international organizations such as WIPO and OECD can also play their role in this process.

Nevertheless, taking into account the conclusions made, as well as noting several achievements of foreign lawyers and legislators in the field of building a legal regulation of the development and use of AI and related technologies, it seems possible to make the following recommendations about the development of such regulation in the Russian Federation.

Study of foreign experience of norm-setting work in the field of artificial intelligence. The amount of work done by the world's leading countries in the development of AI legal regulation, if properly analyzed, will allow us to identify the strengths and weaknesses of certain regulatory strategies, as well as to avoid some controversial decisions that were made by the pioneers in this field.

Further development of cooperation with the private sector and business representatives. American business practice, the experience of multi-level cooperation of the European Union, and the pace of breakthrough scientific and economic development in China show that the most rational approach is to cooperate as closely as possible in the development of regulation with representatives of big business, who are the main national investors in the innovation economy and AI technologies, as well as to ease the tax burden and bureaucratic burden on high-tech startups.

Development of scientific discussion on the issues of legal regulation of artificial intelligence and related technologies. Such a discussion is important not only for the development of legal doctrine as such but also for the effective identification of weaknesses in public and private draft regulations and documents. At the same time, to achieve the greatest completeness and depth, this discussion should involve not only lawyers and legal scholars, but also specialists in the field of artificial intelligence, philosophy, and ethics, as well as experts capable of assessing the socio-economic consequences of actions and decisions in the field of regulation of the AI industry.

Regarding the international level of regulation of AI and related technologies, it seems most important to note the urgent need to develop global cooperation in this area. In the course of the study, the growing acuteness of competition in the global market of AI technologies among both private companies and states was noted. Under such

conditions, the risk of reducing the level of protection of human and civil rights and freedoms, as well as the significance of fundamental humanitarian values, is increasing, as states and companies are forced to be increasingly guided by purely economic considerations. In our opinion, competition in the field of artificial intelligence and related technologies should contribute to the general welfare of mankind, rather than become a catalyst for the socio-humanitarian crisis of modern society. The development of universal international legal regulation of the development and use of robotics and AI based on universal humanitarian values should become an integral part of modern trends in the development of legal aspects of artificial intelligence and related technologies.

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