Studia Administracji i Bezpieczeństwa
nr 19 (2025)
s. 319–329

ISSN 2543-6961
e-ISSN 2720-3093
LICENCJA: CC BY-NC

Martyna Kaczmarczyk
ORCID: 0000-0001-6169-9466
Uniwersytet Warmińsko-Mazurski w Olsztynie

Selected security, ethical and moral issues related to the use of artificial intelligence – in the perspective of new European legal regulations

Wybrane zagadnienia bezpieczeństwa, etyki i moralności związane z wykorzystaniem sztucznej inteligencji – w perspektywie nowych europejskich regulacji prawnych

Abstract
The article analyzes new European regulations on artificial intelligence in the context of values such as safety, ethics, and morality, assessing whether these frameworks adequately protect them. It examines Regulation (EU) 2024/1689 establishing harmonised AI rules and the 2024 Council of Europe Framework Convention on AI, human rights, democracy, and the rule of law. These instruments are presented as a milestone in defining legal boundaries, principles, and liability for the use of AI systems. The article discusses key features of AI systems, regulatory challenges, and potential legal consequences related to the protected values. It highlights selected issues relevant in a period of rapid technological advancement and frames them as a basis for further scientific and social debate.

Keywords: artificial intelligence, European Union law, security, human rights, ethics, morality

Abstrakt
Artykuł analizuje nowe europejskie regulacje dotyczące sztucznej inteligencji w kontekście bezpieczeństwa, etyki i moralności, oceniając, czy zapewniają one odpowiednią ochronę tych wartości. Omówiono Rozporządzenie (UE) 2024/1689 ustanawiające zharmonizowane przepisy dla systemów SI oraz Konwencję Ramową Rady Europy z 2024 r. dotyczącą SI, praw człowieka, demokracji i praworządności. Wskazano, że regulacje te są kluczowe dla wyznaczenia granic prawnych i zasad odpowiedzialności związanej ze stosowaniem SI. Przedstawiono charakterystykę systemów SI, wyzwania dla ustawodawcy oraz potencjalne konsekwencje prawne w odniesieniu do wskazanych wartości. Artykuł podkreśla wybrane zagadnienia istotne w warunkach szybkiego rozwoju technologii oraz stanowi punkt wyjścia do dalszej dyskusji naukowej i społecznej.

Słowa kluczowe: sztuczna inteligencja, prawo Unii Europejskiej, bezpieczeństwo, prawa człowieka, etyka, moralność

Introduction

Artificial intelligence is a phenomenon that has already become a part of our reality. It is nothing new, as it has been operating in various areas of human life for many years. The term has been around since the 1950s, and has flourished since the 1980s. However, the most intensive development of artificial intelligence is currently underway. At present, it cannot be stated that new technologies do not exhibit the characteristics of intelligence. They are at such a high level of advancement that they often exceed human capabilities in their analysis, calculation, and prediction skills. That is why they are used wherever error-free operation and work under time pressure are necessary. The main ideas of AI are reasoning, knowledge, planning, learning, natural language processing (e.g. reasoning, speaking), perception and the ability to move. There are three types of artificial intelligence. First, there is narrow AI, whose abilities are limited to performing specific tasks, for example it can be used in wide technology to create voice assistants. Second, we have general AI, which is capable of performing any tasks that a human could take, for example it is able to learn, solve problems and also plan. The last, third type, is superintelligence, which is intellectually superior to any human being.[1]

Most studies show artificial intelligence as the research of agents. Software and machines have a set of options to choose from and fulfil specific goals. A closely related concept is machine learning, which is related to abilities for software to reason on previous experience. This should enable answering questions about previously collected data and also about its new information. Machine learning helps to classify and regress, so it firstly recognizes classes from a lot of data and then predict one outcome from another.[2] Machine learning is the basis of artificial intelligence. Deep learning, on the other hand, is a category of machine learning. This phenomenon involves creating an algorithm inspired by the human mind, learning from a large amount of data, which is then used to create, for example, paintings or music. Constructed neural networks allow learning without human supervision.[3]

Scientific research on artificial intelligence can be divided into two types, mainly due to the motivation that accompanies it. The first is the psychological-philosophical motivation, which aims to build machines that operate on the model of the human mind. This may be due to various reasons, e.g. to improve, legitimize human work, support certain processes, such as AI in medicine. The

[1] A. Konieczna, *Problematyka sztucznej inteligencji w świetle prawa autorskiego*, "Zeszyty Naukowe Uniwersytetu Jagiellońskiego" 2019, no. 4, pp. 104-105.

[2] M. Maternowska, *Nowe technologie i ich wpływ na łańcuchy dostaw. Sztuczna inteligencja,* "Studia Ekonomiczne. Zeszyty Naukowe Uniwersytetu Ekonomicznego w Katowicach" 2019, no. 388, p. 62.

[3] A. Konieczna, op. cit., s. 62-63.

second type of motivation is engineering, which aims to create autonomous systems that would replace humans in demanding tasks and, what's more, would work better than humans.[4]

Due to its great complexity, artificial intelligence needs a thorough and adapted legal framework to protect values such as human rights, security, morality, and ethics. Year 2024 brought expected regulations that had been developing for many years in the European system. Artificial intelligence is developing very quickly on a global scale and has a strong impact on societies, markets, and economies. Europe, in the global context, is a highly advanced region in artificial intelligence research, not only technologically, but also in the legislative aspect of creating legal norms.[5] The analysis of these regulations was carried out in terms of the above-mentioned values. This will be presented in the following sections in the article.

1. Legislation

In terms of the international approach to ensuring legal protection of human rights and freedoms, transparency of procedures and principles for implementing artificial intelligence systems, taking responsibility for negative effects that may occur in connection with activities of AI, work was undertaken almost simultaneously in the European Union and the Council of Europe to establish expert committees, bodies and comprehensive legal studies in the field of artificial intelligence.[6]

In May 2024, the European Commission completed procedure for adopting new EU regulations, culminating in the signing of Regulation 2024/1689 of 13 June 2024 on the establishment of harmonised rules on artificial intelligence (so-called AI Act).[7] The document entered into force on 1 August 2024, but will be fully applicable in 2 years. The new EU regulation on AI systems is based on risk analysis divided into unacceptable risk, high risk and low or minimal risk.

Obligations imposed on AI providers and users depend on the risk assessment. Regulation precisely specifies which practices within the scope of AI systems are prohibited practices due to their conflict with fundamental principles

[4] P. Wawrzyński, *Podstawy sztucznej inteligencji*, Warszawa 2019, p. 10.

[5] A. M. Świątkowski, *Warunki rozwoju i wpływ sztucznej inteligencji na pracę, zatrudnienie, i inne niektóre prawnie nieuregulowane w Unii Europejskiej zagadnienia społeczne, technologiczne i gospodarcze,* "Roczniki Administracji i Prawa" 2021, vol. XXI, p. 114 et seq.

[6] J. Mazur, *Unia Europejska wobec rozwoju sztucznej inteligencji: proponowane strategie regulacyjnea budowanie jednolitego rynku cyfrowego*, "Europejski Przegląd Sądowy" 2020, no. 4, p. 13 et seq.

[7] Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence and amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act) (Text with EEA relevance).

and rights of the Union. They include, among others, AI-based activities related to propaganda, exploiting the weakness of natural persons, analyzing the emotions of an individual, introducing the categorization of data, including biometric data. In addition, a statutory dictionary has been established, which contains legal definitions of as many as 68 concepts, including artificial intelligence, risk, provider, individual types of data and systems relevant from the point of view of AI technology. Regulation introduces guiding principles for AI systems. First of them is the rule of human supervision over high-risk AI systems. This means that a human being always supervises such systems, thereby preventing or minimising risks to health, safety and fundamental rights.

In addition, the issue of designing a high-risk system is important in this case, as it requires the use of appropriate human-machine interface tools. Another guiding principle of AI systems is the rule of transparency and making information available to entities using them. The third, equally important principle expresses the obligation of accuracy, robustness and cybersecurity in the design and development of artificial intelligence systems. In addition, obligations of suppliers of artificial intelligence systems have also been defined, consisting in monitoring and reporting events. The entire AI cycle must be monitored from the moment it is introduced to the market. The supplier is also obliged to report any incidents and irregularities in operation. The EU legislator has imposed on the Member States the obligation to designate national notifying authorities and market surveillance authorities.[8]

Second international legal regime for AI systems will be the Council of Europe Convention on artificial intelligence, which has not yet been adopted. On 5 September 2024, the European Commission, on behalf of the EU, signed a binding international treaty on artificial intelligence, the Framework Convention on artificial intelligence and human rights, democracy and the rule of law.[9] The Council of Europe Convention is based on the values expressed by the European Convention on Human Rights, i.e. most fundamental freedoms and human rights. Generally speaking, proposed provisions concern regulation of fundamental values for artificial intelligence systems, i.e. the basic principles and rules of law. The Convention introduces a legal definition of AI systems and other related terms, but to a limited extent. The main legal rule of the document is the application of provisions of the Convention at every stage of the life cycle of an artificial intelligence system, emphasizing respect for fundamental human rights and the values

[8] M. Kaczmarczyk, *O systemach sztucznej inteligencji w kontekście praw człowieka w orzecznictwie Europejskiego Trybunału Praw Człowieka*, "Studia Prawa Publicznego" 2025, no. 2, p. 11 et seq.

[9] Council of Europe Framework Convention on Artificial Intelligence and Human Rights, Democracy and the Rule of Law, Vilnius, 5.IX.2024, Council of Europe Treaty Series – No. 225.

of democracy and the rule of law. The CoE Framework Convention, although consistent with provisions of the EU regulation, is relatively concise, not very detailed, and does not address many issues as thoroughly as the EU regulation. An example of a generalized provision is Article 9, which rather enigmatically states that states are obliged to take the necessary measures to protect individual freedom, human dignity and autonomy. However, it is not known what measures are meant. The regulation is imprecise, which allows for a very broad interpretation of what actions on the part of the state are meant.

Similarly, principles relating to the design, development and use of artificial intelligence systems have been presented in a very general manner – counteracting discrimination, equality, safety, are not values dedicated to AI. They have their reference to numerous legal regulations, so again we are dealing with a generalization and a lack of precision. An important issue-difference between the framework convention and the EU regulation, apart from the numerous differences in the level of detail of individual legal issues, is the shaping of the system of liability for violations of human rights and freedoms. This has been regulated completely differently in both documents. Within the framework of the EU regulation, specific obligations related to liability for AI activities have been imposed on natural and legal persons in the role of suppliers. In the framework convention, on the other hand, liability and the obligation to pay compensation rest with the state.[10]

2. Definition

It is necessary to present a definition of artificial intelligence for the sake of order. AI is a dynamically developing field of computer science, but – due to the accumulation of contexts from various scientific disciplines – it is difficult to provide one binding definition. Starting with the name, artificial intelligence aims to reproduce the operation of human intelligence, and in particular the ability to learn. Following John McCarthy, we can say that intelligence itself is defined as "computational ability to achieve goals in the world."[11] Generally, definitions of artificial intelligence focus on the concept of creating computer programs that are capable of performing behaviors that would be considered intelligent if these behaviors were performed by humans.[12] References to human intelligence are necessary, because it has not yet been decided what specific types of computational procedures can be considered intelligence (in isolation from human intelligence).

[10] M. Kaczmarczyk, op. cit., p. 12 et seq.

[11] K. Binkowski, *Sztuczna inteligencja a wykładnia prawa – propozycja zastosowania systemów AI do ustalania założenia o racjonalnym prawodawcy*, "Zeszyt Prawniczy UAM" 2023, no. 13, pp. 7-18.

[12] J. Kaplan, *Sztuczna inteligencja. Co każdy powinien wiedzieć*, Warszawa 2019, pp. 15-16.

According to a doctrinal definition of AI, it is a system that allows for the performance of tasks that require a learning process and taking into account new circumstances in the course of solving a given problem and that can, to a varying degree – depending on the configuration – act autonomously and interact with the environment.[13] Artificial intelligence is the study of machines that perform tasks that require intelligence while being performed by humans (M. Minsky). It is an activity of computer science that concerns methods and techniques of symbolic reasoning by a computer, as well as symbolic representation of knowledge during reasoning (E. Feigenbaum). It concerns problem-solving that is based on actions and cognitive processes that are natural to humans using computer simulation (R. J. Schalkoff)[14]. Neural networks have a special place among models used in machine learning. These networks are inspired by the structure of the human nervous system and are created in its shape. These models are numerous and adapted to the specifics of the types of data processed, applications and types of processed data.[15]

Artificial intelligence is a field related to many sciences. It correlates of course with computer science, teleinformatics, mathematics, but also with psychology, economics, sociology and law, and its many branches. It was undoubtedly very difficult that for many years artificial intelligence systems did not have their legal definition. In fact, each of these fields has developed its own definition over the years. Each definition uses a conceptual scope appropriate to its area. Unfortunately, this does not change the fact that such definitions are the result of scientific needs, but do not have their impact on legal regulations. That is why it was so important to create a legal definition. Breakthrough came in 2024 when the AI act regulation came into force. Although theis regulation contains a very rich dictionary of legal definitions and the very definition of an AI system is consistent with previous scientific definitions, there remains a certain dissatisfaction. It is about including the definition of AI systems in the discussed regulation.

As stated in Article 3, point 1, the artificial intelligence system is: "a machine-based system that is designed to operate with varying levels of autonomy and that may exhibit adaptiveness after deployment, and that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical

[13] T. Zalewski, *Rozdział I. Definicja sztucznej inteligencji*, [in:] *Prawo sztucznej inteligencji*, eds. L. Lai, M. Świerczyński, Warszawa 2020, pp. .

[14] L. Rutkowski, *Metody i techniki sztucznej inteligencji,* Warszawa 2012, s. 19.

[15] J. Arabas, J. Chudziak, *Sztuczna inteligencja w odbiorze społecznym. Metafory a rzeczywistość,* [in:] *Informatyka a filozofia. Zaufanie do systemów sztucznej inteligencji,* eds. M. Jakubiak, P. Stacewicz, Warszawa 2023, p. 18.

or virtual environments."[16] Unfortunately, the AI system is being pointed out here, not the AI itself. We can say that we still do not legally know what the AI itself is. Definition of risk, provider, deployer, importer, distributor, importer, behind which each time stands a physical or legal person. Hence, the entire regulatory system is based on the principle of risk and human responsibility for the negative effects of AI activity. However, delving very deep into artificial intelligence, we have not legally defined what it is in itself. This is a big shortcoming and simplification.

The same applies to the definition of artificial intelligence in the framework convention. In Article 2 it is stated that "artificial intelligence system means a machine-based system that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations or decisions that may influence physical or virtual environments. Different artificial intelligence systems vary in their levels of autonomy and adaptiveness after deployment."[17]

First of all, this results from the need to reach the very foundations of the issue of artificial intelligence, and then it is about clarifying many other legal issues that the European legislator did not include in the regulation. Above all, the role of humans may be limited to merely formally approving the results of the program's operation. AI often operates in an unclear and complicated manner, and often there is a lack of knowledge and skills to verify the correctness of its results, which is the reason why people tend to approve AI actions without controlling them. The second issue is the dignity of artificial intelligence, whether we can talk about it at all or in what aspect. Will it correspond to human dignity or should it be appropriately modified. These aspects are of great importance in fundamental issues such as morality, ethical conduct and safety.

3. Safety problems

To operate safely, artificial intelligence systems need to be based on good quality data. The input and acquisition of such data depend on humans and their responsibility for operational and analytical data. In addition, these data are created and acquired from humans.[18] Current requirements and guidelines that new regulations contain are very relevant. They are primarily about human efficiency and oversight, technical soundness and security, privacy and data management, transparency, diversity and non-discrimination, fairness, social and environmental well-being.

[16] Article 3 of Regulation 2024/1689.
[17] Article 2 of Framework Convention.
[18] M. Nowakowski, *Sztuczna inteligencja. Praktyczny przewodnik dla sektora innowacji finansowych,* Warszawa 2023, p. 48.

In relation to security, both European regulations refer differently. Firstly, the Framework Convention does not refer at all to the value of security and its types. It is different in the case of the EU Regulation 2024/1689. Security appears in the normative act very often and in different contexts. Many references to different security values can be found in the extended preamble of the act. Most often, the legislator refers to security and the protection of fundamental human rights. There are also references to the security of justice system, food, and personal security. Some regulations refer to national security. If AI systems are placed on the market, put into service or used, with or without modification, for military, defence or national security purposes, they should be excluded from the scope of this Regulation, regardless of the entity carrying out those activities – for example, whether it is a public or private entity. In the case of national security purposes, this exclusion is justified both by the fact that national security is the exclusive responsibility of the Member States by the fact that national security activities are of a specific nature, entail specific operational needs and are subject to specific national rules. However, where an AI system is developed, placed on the market, put into service or used for military, defence or national security purposes is used temporarily or permanently for other purposes, for example civilian or humanitarian purposes, law enforcement or public security, such a system will fall within the scope of this Regulation.[19]

Artificial intelligence can significantly impact broadly understood security, automating threat detection, monitoring human activities and even predicting potential threats. At the same time a lot of caution is needed, because AI itself creates new threats, often very advanced ones. This mainly concerns cyberattacks, data manipulation, and theft. This is due to the fact that AI systems have access to very sensitive data – personal data, they interfere with the right to privacy, and have contact with biometric data obtained from people. AI can be used to generate convincing fake news, photos, videos, which can lead to disinformation and numerous manipulations. This in turn can have significant social consequences. More and more network users are sharing highly confidential information, which poses a risk to privacy and data security. In this context, it is important to note that AI can also make mistakes, especially if it is working with poor quality data or which is limited or biased. This in turn can lead to poor decision-making or discrimination. In this regard, appropriate education and campaigns are also necessary to make people aware that AI is a blessing of our times, but it is also a great threat if it gets out of control.

[19] Preamble, article 1 and article 2 of Regulation 2024/1689.

4. AI and ethics

Intelligent robots may in the future cast a shadow over the foundations of philosophy and religion. Ethical and moral doubts are raised by the fact whether something that is not natural, has no biological origin, can be treated within the framework of the same for all living beings, so people and animals. This applies to issues concerning the mind and thinking, emotions and their feeling and expression, as well as the aforementioned dignity.[20]

And at this point, the important distinction between weak and strong AI is pointed out. The weak one means a kind of technology that simulates, imitates, and uses simple commands. A much bigger problem is strong artificial intelligence, characterised by such enormous technological advancement that it works in a way similar to the human mind, often surpassing its capabilities.[21]

J. Kaplan asks very pertinent questions in his work "*Artificial Intelligence. What everyone needs to know*", such as: "can a computer think?", "does a computer have free will?", "can a computer be conscious?", "can a computer feel?"[22] At first glance, these seem to be rhetorical questions, too ideological, or maybe even nonsensical – taken from science fiction movies. Nothing could be further from the truth. Artificial intelligence is becoming our reality. Although it seems that visions of the world around us with robots are unrealistic or very distant, this is a much closer future. Therefore, legislation should now aim to introduce a complete, legal framework that will protect the most important values from potential violations by AI. This applies to both the European legislator and other systems of international law, e.g. the United Nations, the Council of Europe, but also to each national legislator.

From an ethical perspective, the key issue within AI systems is trust, which is based and verified on credibility. The decision to trust leans primarily on the analysis and assessment of credibility. In turn, credibility, which is very important from the AI perspective, can be distinguished between substantive and ethical-moral. First depends on factors such as knowledge, competence or experience. Second is the result of acting on the basis of ethical norms and principles. At current stage of development of artificial intelligence, substantive credibility is important, because for now these systems do not fully make their own ethical choices. Of course, it is possible that at a higher level of technological development such actions will be possible. Currently, people program AI, so morality is related to their decisions and choices. However, the potential of machine learning is so great that in some time robots may show human characteristics, such as being guided by the rules of ethics and morality or not.[23]

[20] J. Kaplan, op. cit., s. 90-91.
[21] J. Kaplan, op. cit., s. 92.
[22] J. Kaplan, op. cit., s. 93-113.
[23] P. Stacewicz, *Wyjaśnianie, zaufanie i test Turinga*, [in:] *Informatyka a filozofia…,* op. cit., p. 27.

Understanding the concept of trust in the context of AI must be based on the distinction between ethics and thin and thick concepts. The thin concept is focused on action while lacking moral responsibility. This results from the lack of self-awareness of AI – at least at the current stage of technological development, because this may change in the near future. This type of approach is appropriate for technical sciences and their methodologies. Trust here is based on the developed technology and, above all, on reliability. The thick concept of trust differs because it is about deep valuation, axiology through the pursuit of moral perfection.[24]

In the perspective of the current development of new technologies, artificial intelligence systems are assessed as trusted or not through the prism of industry. Therefore, the fulfilment of certain criteria, such as practical, operational and technological requirements, is examined.[25] AI systems should be created in such a way that they provide benefits to the society. Introducing AI only for the purpose of improving technology or making it more interesting is not good. Similarly, the creation and use of systems should not take place only for the profit or benefit of its creators, if this would have a negative balance for the whole.[26]

Conclusions

In conclusion to the analysis of European regulations in the matter of artificial intelligence, it should be stated with full certainty that this regulation constitutes an innovative and groundbreaking approach to the legal systematization of AI. While the creation of basic principles of functioning of artificial intelligence, the issue of liability for damages, and the introduction of division of AI systems due to risk should be referred to with great approval, there are certainly some shortcomings. Fundamental issues were missed by the legislator.

What is particularly problematic in both regulations is the lack of a fundamental explanation of the concept of artificial intelligence itself, which affects the foundations of the entire AI system. It is possible that at the current stage of development of new technologies the applicable assumptions will be sufficient, but in the longer term they may unfortunately prove to be insufficient, too general and too shallow. Certainly, this system should be expanded to establish and define the concepts underlying it, i.e. artificial intelligence itself, and not just artificial intelligence systems. In connection with this, the issues of dignity and rights that belong to artificial intelligence should also be expanded. Basing AI on the

[24] P. Polak, R. Krzanowski, *Ku zaufanej sztucznej inteligencji. Perspektywa fronetyczna,* [in:] *Informatyka a filozofia…,* op. cit., p. 38.
[25] P. Polak, R. Krzanowski, op. cit., p. 37.
[26] P. Polak, R. Krzanowski, op. cit., p. 40.

principle of the human factor and its participation and control at every stage of life of artificial intelligence is a good solution for now, but in the future it may not be enough. We can already see that we are dealing with autonomous systems. An autonomous system is a system capable of acting and making decisions without constant human intervention, with the ability to self-regulate and maintain its state in a changing environment. An example of such a system would be a vehicle controlled autonomously by artificial intelligence. It should be borne in mind that we will increasingly be dealing with such systems, including robots, in our space.

Bibliography

1. Arabas J., Chudziak J., *Sztuczna inteligencja w odbiorze społecznym. Metafory a rzeczywistość,* [in:] *Informatyka a filozofia. Zaufanie do systemów sztucznej inteligencji*, eds. M. Jakubiak, P. Stacewicz, Warszawa 2023, pp. 9-22.
2. Binkowski K., *Sztuczna inteligencja a wykładnia prawa – propozycja zastosowania systemów AI do ustalania założenia o racjonalnym prawodawcy*, "Zeszyt Prawniczy UAM" 2023, no. 13, pp. 7-18.
3. Kaczmarczyk M., *O systemach sztucznej inteligencji w kontekście praw człowieka w orzecznictwie Europejskiego Trybunału Praw Człowieka*, "Studia Prawa Publicznego" 2025, no. 2, pp. 9-30.
4. Kaplan J., *Sztuczna inteligencja. Co każdy powinien wiedzieć*, Warszawa 2019.
5. Konieczna A., *Problematyka sztucznej inteligencji w świetle prawa autorskiego*, "Zeszyty Naukowe Uniwersytetu Jagiellońskiego" 2019, no. 4, pp. 104-115.
6. Maternowska M., *Nowe technologie i ich wpływ na łańcuchy dostaw. Sztuczna inteligencja*, "Studia Ekonomiczne. Zeszyty Naukowe Uniwersytetu Ekonomicznego w Katowicach" 2019, no. 388, pp. 59-73.
7. Mazur J., *Unia Europejska wobec rozwoju sztucznej inteligencji: proponowane strategie regulacyjne a budowanie jednolitego rynku cyfrowego*, "Europejski Przegląd Sądowy" 2020, no. 4, pp. 13-18.
8. Nowakowski M., *Sztuczna inteligencja. Praktyczny przewodnik dla sektora innowacji finansowych*, Warszawa 2023.
9. Polak P., Krzanowski R., *Ku zaufanej sztucznej inteligencji. Perspektywa fronetyczna*, [in:] *Informatyka a filozofia. Zaufanie do systemów sztucznej inteligencji*, eds. M. Jakubiak, P. Stacewicz, Warszawa 2023, pp. 35-45.
10. Rutkowski L., *Metody i techniki sztucznej inteligencji*, Warszawa 2012.
11. Stacewicz P., *Wyjaśnianie, zaufanie i test Turinga,* [in:] *Informatyka a filozofia. Zaufanie do systemów sztucznej inteligencji*, eds. M. Jakubiak, P. Stacewicz, Warszawa 2023, pp. 23-34.
12. Świątkowski A. M., *Warunki rozwojui wpływ sztucznej inteligencji na pracę, zatrudnienie, i inne niektóre prawnie nieuregulowane w Unii Europejskiej zagadnienia społeczne, technologiczne i gospodarcze,* "Roczniki Administracji i Prawa" 2021, vol. XXI, pp. 113-127.
13. Wawrzyński P., *Podstawy sztucznej inteligencji*, Warszawa 2019.
14. Zalewski T., *Definicja sztucznej inteligencji*, [in:] *Prawo sztucznej inteligencji*, eds. L. Lai, M. Świerczyński, Warszawa 2020.