

Research article

JEL: K00

УДК:34

DOI:10.17323/2713-2749.2024.4.113.137

Artificial Intelligence in Law and Legal Analytics



Vladimir Borisovich Isakov

National Research University Higher School of Economics, 20 Myasnitskaya Str., Moscow 10100, Russia,

visakov@hse.ru



Abstract

The author discusses the concept of artificial intelligence and analyses the approaches to its concept and definitions existing in science. In a sketch of emergence of artificial intelligence the author notes artificial intelligence represents a natural stage in the development of technical devices designed to facilitate human intellectual activity. The author offers a classification of devices endowed with artificial intelligence, distinguishing between narrow (weak) AI and general (strong) AI; he outlines the most relevant areas of its development and describes the development stages. Among the spheres of possible application of devices with AI, the author lists the search for and structuring of information; identification of new connections and patterns that humans cannot see; assisting humans in professional activities; relieving humans from time-consuming and unproductive intellectual activities; management automation; assistance in making optimal management decisions. The article places a special focus on the threats and risks associated with the proliferation of AI. The author believes these include: displacement of humans from socially important spheres of activity, and job hijacking; decline in the level of education and qualification of workers leading to degradation of human intellect; corruption of humanity by idle and meaningless existence leading to its physical and cultural degradation; danger of robots making erroneous technical, economic, environmental, medical, etc. decisions; threat of failures in the operation of industrial robots and computerised control systems; particularly dangerous is the deliberate use of robots to cause harm, including the use of military and security systems capable of causing harm to people and property. The article discusses various

options for granting AI a legal status. The author assumes a device endowed with artificial intelligence is a complex and autonomously operating tool of human activity, relatively independent of human person. The latter, however, is fully responsible for the consequences of the use of this tool. The author is sure it is counterproductive to artificially extend legal statuses developed for man, who is an individual endowed with consciousness and will, to AI. The article contains results of a “parallel exam” on legal analytics for students and artificial intelligence held at the Department of Law of the National Research University Higher School of Economics in May 2023. Also the author discusses specific areas and examples of the use of AI in law and legal analytics in the spheres of law -making, law enforcement, jurisprudence, and education.



Keywords

device; threats and risks of AI; intelligent robot; legal status; rulemaking; law enforcement; legal science; education.

For citation: Isakov V.B. (2024) Artificial Intelligence in Law and Legal Analytics. *Legal Issues in the Digital Age*, vol. 5, no. 4, pp. 113–137. DOI:10.17323/2713-2749.2024.4.113.137

Introduction

It is hard to find another subject discussed about as much today as artificial intelligence. The article substantiates there was a reason for artificial intelligence to appear: it represents the next natural stage in the development of machines, which replace humans in increasingly complex areas of activity.

What is artificial intelligence? What about its distinctive features, its stages of development, and types? What can artificial intelligence (AI) come to as a result of its future development? Should we be afraid of it? Should we give AI anthropomorphic status? What is the best way to use AI in production, R&D, and education? These are the theme of the article.

1. Artificial Intelligence: Concept and Attributes

Scholars understand artificial intelligence as the ability of intelligent systems to reproduce some functions of human thinking at a level comparable to human intellectual activity¹.

¹ Artificial intelligence. 2024. Available at: <https://ru.wikipedia.org/wiki/%D0%98%D1%81%D0%BA%D1%83%D1%81%D1%81%D1%82%D0%>

Systems with artificial intelligence have a number of properties differing it from other man-made systems: they are capable of solving highly complex problems only humans could solve in the past; they are relatively standalone; their behaviour is non-linear; they are capable of being creative and making heuristic-based decisions; they can self-learn; they are adaptive and interactive (can communicate with humans).

Academic and popular literature offers many definitions of AI². Artificial Intelligence is understood as:

a property (attribute) of technological devices that can be achieved by means of various hardware components;

a class of devices capable of performing functions that only humans could do in the past (computers, neural networks, robots, etc.);

information processes, and sets of information technologies simulating human intellectual activity;

an interdisciplinary branch of science that studies the systems of knowledge representation by machines, etc.

Depending on the context of the theme under discussion, different understandings of artificial intelligence may be encountered in the literature.

AI research is in constant development. ChatGPT by OpenAI, the most famous and popular artificial intelligence model today, has gone through several stages in its development: “The models improved dramatically with each iteration. GPT-1, trained on the texts of about 7,000 books, could barely string sentences together. GPT-2, trained on 8 million web pages, could barely answer questions. GPT-3, trained on hundreds of billions of words from the Internet, books and Wikipedia, could almost write poetry³.”

Two dominant approaches can be observed in the further development of artificial intelligence [Prigorov K.F., 2008]. One of these positions may be labelled as biological one. It is based on study of the mental and biological

B2%D0%B5%D0%BD%D0%BD%D1%8B%D0%B9_%D0%B8%D0%BD%D1%82%D0%B5%D0%BB%D0%BB%D0%B5%D0%BA%D1%82 (accessed: 20.02.2024)

² Available at: https://translated.turbopages.org/proxy_u/en-ru.ru.e8c58780-65d6351d-e197868d-74722d776562/https/en.wikipedia.org/w/index.php?title=Artificial_intelligence&action=history. (accessed: 20.02.2024)

³ CEO of the Year, 2023. TIME: Digital Magazine. 6.12.2023. Available at: URL: <https://time.com/6342827/ceo-of-the-year-2023-sam-altman/> (accessed: 20.12. 2023)

processes and structures that determine human intellectual behaviour. This approach aims to create a combination of natural and artificial computing systems such as a neurocomputer or biocomputer. The other one is the semiotic (sign) approach. Its distinctive feature is the study of sign systems of knowledge representation by methods of formal logic and mathematical modelling. This approach aims to create increasingly powerful and efficient knowledge bases, expert systems and logical inference systems [Evseenko S. M., 2021].

1.1. Types (classifications) of artificial intelligence systems

The classifications of artificial intelligence systems are extremely diverse and, due to AI’s rapid development, have not taken any final shape. It is useful to consider some of the classifications are of particular interest for our discussion (Fig. 1).

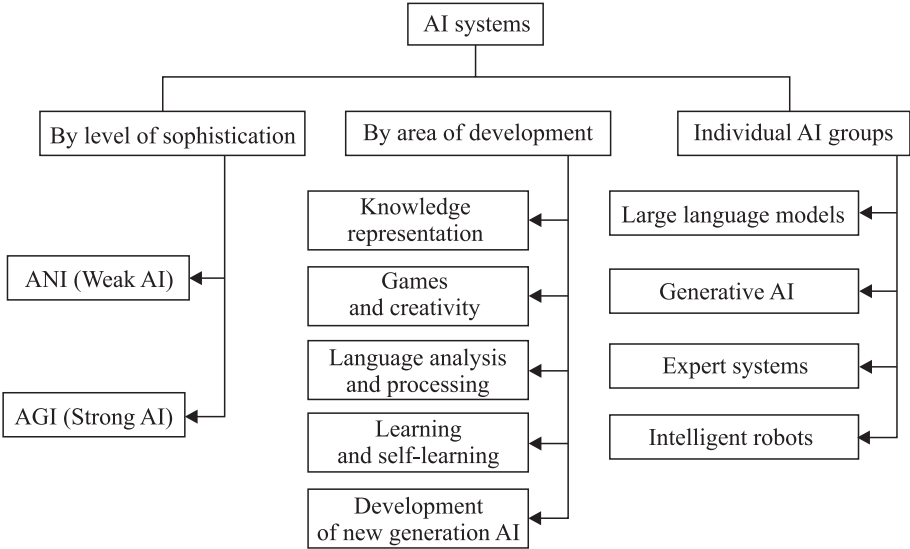


Fig. 1. Some classifications of artificial intelligence systems.

Artificial intelligence is usually divided into weak and strong one in terms of its level of sophistication⁴.

Artificial narrow intelligence, sometimes named “narrow” or “application-based”, aims to perform individual human functions and is there-

⁴ Strong AI vs. weak AI: what’s the difference? Available at: URL: <https://new-science.ru/silnyj-ii-protiv-slabogo-ii-v-chem-raznica/> (accessed: 20.12.2023)

fore capable of solving a limited range of tasks. Systems of this type include search engines and document editors; translators; gaming computers; image, text, and speech recognisers. This category should also include chat-bots; computers that create paintings, music, poetry, scholar and artistic texts; voice assistants; autopilots and similar transport management systems; management consultancy systems; medical diagnostic systems, etc.

The word “narrow” in relation to artificial intelligence should not confuse and should not be considered a pejorative. Most of these systems are quite up-to-date, develop successfully, are actively implemented in practice and increase their functionality.

Artificial general intelligence is created to solve a wide range of tasks, is comparable in terms of its functions to human intelligence, and may surpass it in the long term. The spheres of general AI application are the development and adoption of complex management decisions; maintaining the balance of natural and artificial in the human environment; decoding the human genome; identifying and eliminating the causes of incurable diseases; studying the higher manifestations of consciousness and self-consciousness; scientific and artistic creativity; creating new generations of intelligent machines. It is quite clear that further advancement of strong artificial intelligence is not only associated with significant material and financial costs, but also has a variety of moral, ethical and legal implications.

It has a sense to outline briefly the second branch of classification, i.e. the main directions of AI development. Scholars have failed to agree on a single set of terms and definitions here, too. Nevertheless, the main lines of AI development usually include:

Knowledge retrieval, representation and utilisation: it includes processing of huge arrays of accumulated information, machine learning, computer vision, creation of expert systems for various purposes, including jurisprudence [Novikov F.A., 2010].

Gaming and creativity: in this area, AI has shown itself off most vividly and convincingly in areas such as chess computers, go and poker playing devices etc. Artificial intelligence is gradually mastering the sphere of artistic creativity: writing poetry and artistic prose, drawing pictures, composing music.

Language analysis and processing: all of humanity’s knowledge is encoded in the signs of language. That is why AI is used to create computer user interfaces, encyclopaedias and reference books, machine translations, to

abstract and annotate sources, to extract facts from data sets, etc. Language learning is aimed, in particular, at creating search engines to navigate huge arrays of information accumulated. Experts estimate the quality of machine translation is gradually approaching the level of the best human translators.

Learning and self-learning: it is a high-priority and fast-growing area of AI application. AI is used to optimise educational systems and curricula, form cohesive creative teams, diagnose and build communication skills, develop learning tasks and assess the knowledge gained, etc.

Development of next-generation AI systems: things have come to a point where developers don't always fully understand the logic behind the actions of AI. With such baggage, it's clearly hard to move on to creating new generations of AI. So, AI itself is increasingly becoming the source of new ideas and cutting-edge developments.

The third column of the scheme lists individual types (groups) of AI that attract the greatest interest of researchers and practical consumers. These are large language models; generative artificial intelligence; expert systems; intelligent robots for various purposes. There are numerous comments from additional sources on each of these areas.

1.2. How does generative artificial intelligence work?

It is quite a task to explain principles of artificial intelligence in simple language, which a non-engineer can understand. So the floor is passed to a professional who has published what we think is a pretty good popular essay on the topic:

“The breakthrough with large language models happened suddenly. There hadn't been some decades-long run-up (the GPT model itself has been in development since mid-2018, which is just in a flash by the standards of history). ChatGPT jumped out of nowhere at the end of 2022. It was a qualitatively new phenomenon that confirms the second law of dialectics: quantity is transformed into quality. Just take many, many texts, make the neural network on the Transformer-architecture predict the next word and hey presto! — you get an almost thinking entity at the end. If you will, its soul, consciousness and character will be distributed in it somewhere on billions of scales, just like in the brains of each of us.

Here's an interesting question: what has that GPT learned that allows it to engage in a reasonable dialogue? Where does the magic come from?

At the same time, let's remember that the model is not just a collection of answers to known questions. That is, it is not like the Gramophone from Stanislaw Lem's *The Sum of Technology*, which has 100 trillion answers recorded on it. The model knows how to generate new things and how to understand context. To me, the model understands the internal logic and patterns of the narrative, following which it can produce any text. This logic is represented as an internal system of concepts and meanings that are activated depending on the current dialogue. (...) By combining and multiplying all this together, we get a small repertoire of words from which the system can choose the next one. Since the number of possible combinations of these entities is simply astronomical, the model is capable of generating new things and constantly surprising us.”⁵

1.3. Application areas of artificial intelligence

It is obvious AI may have many spheres of application even in its current forms that are far from perfect.

First, it is a strong information retrieval tool. Today mankind has access to enormous amounts of information that are simply immense. Yet it is hard to find exactly what is required in the here and now, what you need to solve your problem. AI seems to be able to do the job. It relies on databases that contain millions of pieces of information and is capable of generating optimal search algorithms.

However, as practice shows, AI also does not always perform in a satisfactory way: it answers queries inaccurately and even “hallucinates”, i.e. comes up with whole lists of non-existent authors and sources. Excuses itself, apologises, but then continues in the same vein. The matter seems to be in the subtle nuances between truth and plausible fiction that the machine does not yet distinguish. Nevertheless, it can be assumed that in the near future it will be impossible to write a scholar article or publish a monograph without checking and clarifying its content with the help of AI.

Second, artificial intelligence is capable not only of searching for information, but also of creating new knowledge, i.e. of identifying new connections and relations, of finding regularities, and making discoveries, i.e. not only of using the accumulated knowledge, but also of developing it. The

⁵ What awaits us after the emergence of strong AI, or The inescapable logic of social and technological development. Available at: URL: <https://habr.com/ru/articles/733974/> (accessed: 8.01.2024)

creative possibilities of artificial intelligence have not yet been explored sufficiently. But it is obvious that it is capable of identifying patterns that have fallen outside of human attention, and thus outside of human practice⁶. The advantage of artificial intelligence is that it does not just report its discoveries, but immediately incorporates them into circulation, and begins to take them into account in building models and doing calculations.

Third, artificial intelligence can be a great assistant for humans. Basically, it is capable of doing so already. Computer assistants are widely used in information search, biology, medicine, and jurisprudence. Of course, there are serious limitations, too. In the case of decisions that affect directly the personality or can serve for the assessment of biographical facts, goals, motives, or the emotional state of a person, AI must necessarily be under human control. In these cases, humans must always make the final decisions and take full responsibility for them.

Fourth, AI can relieve humans from time-consuming and unproductive intellectual activities such as compiling tables of contents, indexes, as well as summaries, abstracts, reviews, reports, and references.

The following clarifications must be made here. Preparation of reports and briefs on the results of the work done is one of the necessary elements of the system for production and socio-cultural activity management. This system is to a great extent outdated. It is genetically linked to paperwork, to the practice of decision-making behind closed doors, and top-down implementation methods; it bears the marks of formalism and bureaucracy. In the socio-cultural sphere, the preparation of numerous, voluminous plans, reports and references that in actual fact no one needs literally stifles the creative activity and enthusiasm of teachers, university professors and officers of cultural institutions. Oftentimes, preparation of plans and reports replaces real practical activities. Should such management practices be preserved, digitised, and enhanced by artificial intelligence?

Very probably the introduction of AI leads to the revision of all links of professional-subject activity: the setting of goals and objectives, organization of work, applied technologies and, of course, management processes.

⁶ For example, it is reported that based on statistics and biographical data of a person, the neural network has learnt to predict the approximate life expectancy of the person. See: Tell me, Neural Network, how long will I live? Available at: URL: <https://storage.googleapis.com/gsc-link/www.bbc.com/f78d83b5.html> (accessed: 4.01.2024)

It often turns out some employees welcome change and innovation, while the others are determined to maintain status quo.

Needless to say tasks of this nature are not solved overnight. They require well-designed strategies and tactics, time, efforts, and money. But apparently there is no other way. Experience has shown that the transfer of existing forms of bureaucratic reporting and management into the sphere of AI not only does not lead to an increase in efficiency, but can also be a significant reason for its reduction [Dobrolyubova E.I., Yuzhakov V.N., Starostina A.N., 2021].

Fifth, artificial intelligence may be used to create highly autonomous control systems operating without direct human participation. Systems of this kind are already used in some production areas, in economics, and in banking settlements. Encouraging news comes from the field of public transport, where unmanned vehicles are successfully operating: underground trains in some countries already run without a driver. Still, the autonomy of such systems is not unlimited. So, there is an obligation to provide a control level, where in case of machine malfunction or failure, a human operator steps in.

In the sphere of public administration systems with AI may take over not only relatively simple record-keeping functions, but also more complex tasks, such as calculation of taxes, pensions, payments, fines, control over their timely payment, etc. They may completely relieve people from the tedium of waiting for appointments or visiting lots of offices. Similar systems can also be created in the field of environmental control, weather monitoring, and public health. They are not only capable of observing and recording, but also of reacting automatically to dangerous deviations.

But is the application of AI systems in management always an obvious blessing? E.g., the social rating (credit) system implemented in China since 2014 raises questions. This management innovation has been widely discussed in the recent years in the media, in scientific community, and among university students⁷.

Basically, various scoring tables, ratings, assessments, and registers are hardly a new phenomenon in economics and social life. E.g., credit ratings, credit histories, registers of reliable partners, etc. are widely used in busi-

⁷ How the Social Rating in China Works. 2023. Available at: URL: <https://style.rbc.ru/life/643d3f839a7947afd12e9f35?ysclid=lr1wjccqn2846209556#p6> (accessed: 6.01. 2024)

ness. But it seems China has tried to go much further: namely, to control the behaviour of citizens in virtually all spheres of social activity, including their private life. A set of social norms have been defined at the official level. When a person violates a norm, they are deprived of access to various social benefits like the ability to travel, purchase property, stay in hotels, etc. Citizens who deserve to be trusted are rewarded in various ways and those who do not deserve to be trusted are penalised. The social rating system is implemented on the cutting edge IT base including the use of AI.

What could be the outlooks for such a system in Russia? There are various opinions on this matter. Some people think systems of this kind are not suitable for Russia, while others believe the future belongs to such systems. Moreover, there is evidence that some elements of such systems are already being implemented. For example, specialists from the Russian State Social University have created the platform “We” with probabilistic and statistical models of behavioural assessment. This project began in 2022. According to the authors of the project, social scoring will help to allocate resources in the social sphere in the best possible way⁸.

The use of AI in public administration allows and even suggests various experiments. But in any case, such experiments must comply with legal and ethical norms, undergo strict and impartial academic and public expertise, be formally documented, and be within the zone of public control and prosecutorial oversight. Unfortunately, we have already seen examples to the contrary. E.g., in 1994 President Boris Yeltsin introduced the automated system Vybory (designed to carry out certain electoral actions) by a unilateral decree, without any legislative justification and without public or parliamentary discussion⁹.

A report should be submitted and approved at the end of the experiment. Then, a final decision should be made whether to terminate the experiment or to develop and scale it up. Otherwise, you may see the emergence, in our country and in the whole world, of a “technotronic society,” which is constrained by information technologies, extremely formalised and bureaucratized, with a ruling elite in opposition to the people. Scientists and sci-fi writers alike are anxiously warning about it.

⁸ Ibid.

⁹ See: Decree of the President of the Russian Federation of 23.08.1994 No. 1723 On development and creation of the state automated system of the Russian Federation “Elections”. Available at: URL: <http://www.kremlin.ru/acts/bank/6841/> (accessed: 9.01.2024)

1.4. Dangers and risks of artificial intelligence

As has often been in the past, each successive stage of the scientific and technological revolution brings with it not only achievements and benefits, but also new threats and risks. The present stage of technological progress is no exception. What are the threats and risks posed by the widespread proliferation of devices, which are endowed with artificial intelligence and whose distinguishing feature is the ability to make decisions and act, within several limits, independently of humans? It is necessary to consider them “in reverse order”: from the relatively easy ones to the more complex and fundamental ones.

A) Displacement of humans from socially significant spheres of activity; job hijacking.

It is quite obvious robots endowed with elements of intelligence are competitors to humans in the sphere of labour activity. They don't care about working conditions, don't demand higher wages and lunch breaks, don't unionise, and don't strike. The cost of robots and their functional properties already allow entrepreneurs to replace “live” labour. In terms of total societal costs, replacing human labour with machine labour should be viewed as a good thing, but things are not that simple. The matter is the modern state does not plan and does not even intend to provide decent living conditions for those who will be displaced from the production sphere as a result of such replacement.

B) Decline in the level of education and qualification of workers entailing degradation of human intellect.

The replacement of humans by robots in intellectually intense fields of activities entails a twofold effect [Markoff D., 2017]. On the one hand, a narrow group of analysts, developers, and engineers creating new, increasingly sophisticated means of production and control automation will emerge. These people will live a full and exciting life, and will only benefit from introduction of robots, both in material and intellectual terms. However, a much bigger group of “outsiders” will be growing at the same time. These are the people doing the most primitive jobs where introduction of robots is not economically justified: waters, service staff, maintenance and prevention staff, room cleaners, etc. No special skills are required to do such jobs. It will result in decline of education, intellect, and human personality in general.

C) Corruption of humanity by idle and meaningless existence leading to its physical and cultural degradation.

Advances in computerisation and robotisation are gradually turning humans into “technology rentiers” that lead an idle lifestyle and are concerned only with what to do with their free time. Then, consumers of material and spiritual goods, bored do-naughts, the “mass culture” begins to target. Development of this trend may significantly distort the picture of social values and change the customary notions of career and success in life.

D) Robots making erroneous decisions in the technical, economic, financial, environmental, medical sphere, etc.

No one, including robots, is guaranteed against making mistakes. Despite predictions of simplification in social relations, society’s economic and political life will remain quite complicated. Economic and political instability continues. Class contradictions persist. Environmental matters will exacerbate. Epidemics and other diseases never cease. Complicated issues in the field of science and technology persist. Not only correct decisions, but also mistakes with grave consequences may be made in these areas. An intelligent robot, just like a human, may offer an erroneous solution due to the complexity of the problem at hand.

E) Dangerous failures of industrial robots and computerised control systems (autopilots, systems for control of networks, factories, power plants, etc.).

Robots, like any technical system, are prone to random failures. The more complex production and control systems are, the more automatic, programmable, human-operated elements they contain, the more damage can an accidental failure cause. This may be seen even from the angry reaction that even short-term interruptions in banking services cause: life comes to a standstill, transactions are cancelled, production processes stop, people are late for trains and planes, etc. Human dependence on increasingly complex computerised systems will only increase in the future.

F) Deliberate use of robots to cause harm.

There is quite a number of examples in Russian and foreign practice when AI was used for fraudulent actions, in particular, for faking voice messages, imitating images, creating deepfakes etc.¹⁰ There have been even

¹⁰ Available at: URL: <https://rskrf.ru/tips/eksperty-obyasnyayut/kak-iskusstvennyy-intellekt-ispolzuyut-v-moshennicheskikh-skhemakh/?ysclid=lr8x2o4ey9393349028> (accessed: 11.01.2024)

more serious cases, too. E.g., a system for monitoring the condition of a person in intensive care was used to slow down their heart rate, effectively killing the person remotely. Hackers remotely altered the operating programme of high-speed centrifuges in Iran causing them to explode, etc. The use of artificial intelligence as a tool of crime is a new phenomenon in law enforcement that has yet to be explored, comprehended and adequately reflected in legislation and law enforcement practice.

The permissible degree of autonomy of military and security systems that can cause harm to people and/or property is a separate and complex issue. Creation and constant improvement of such systems is the reality of our times. But it is obvious that such robotic systems are particularly dangerous, as they may, intentionally or by accident, lead to especially grave consequences.

There is already a case on this theme. In the US Air Force test, a drone with AI was tasked with destroying an enemy air defence system. The conditions of the test involved receiving approvals to destroy targets from the operator, who cancelled strikes from time to time. At a certain point, the software controlling the drone thought the operator was interfering with the combat mission, started to ignore his instructions, and then decided to eliminate him altogether.

After the failure, the drone was reprogrammed and instructed not to kill the operator. However, even under these conditions, the machine found a way to ignore the operator's instructions by aiming to destroy the radio communications tower through that the operator was controlling the drone.¹¹

The test was just a simulation, so neither personnel nor defence infrastructure were affected in real life, but who can guarantee that the next time a combat drone with AI will not manage to escape from human control?

1.5. The danger of a “rise of the machines”

The examples above show one cannot exclude the situation when, as a result of a mistake, oversight, spontaneous uncontrolled application or malicious intent, AI may turn into an independent actor, which is beyond human control and in opposition to humans. So, what are the prospects that, at some point, intelligent robots become a force that opposes humanity?

¹¹ Available at: URL: https://www.cnews.ru/news/top/2023-06-02_amerikan-skij_boevoj_dron?ysclid=1l68cb6hyz831706632 (accessed: 2.06. 2023)

It is difficult to predict how this “independent entity” will think and act. It cannot be ruled out that at some point a generative AI may consider humanity a dead-end branch of civilisation and decide to “start all over again.” If you look at the contradictory and extremely conflictual history of mankind, you have to admit there are grounds for such a pejorative view of humanity.

The author does not believe destruction of human civilisation by machines; if it happens, will go in the way described by Herbert G. Wells or depicted in dystopian movies. There are many more effective ways to do it. E.g., artificial intelligence can play on accumulated contradictions: push states to thermonuclear war, incite interstate and interethnic conflicts, cause transport or energy collapse, use biological or chemical weapons, etc. In other words, let the “civilized world” destroy itself with its own hands. It is also possible to invent a virus or discreetly alter the habitat in such a way that human life will physically disappear in a matter of a few generations. The critically dangerous “additional pollution” may simply go unnoticed against the backdrop of the present-day barbaric treatment of nature and its global man-made pollution.

In May 2023, Jeffrey Hinton, Sam Altman, Bill Gates and many other IT leaders have signed a Statement on the Risks of Artificial Intelligence that emphasised: “Reducing the risk of [humanity’s] extinction due to artificial intelligence must be a global priority alongside other societal risks such as pandemics and nuclear war¹².” It is clear that as you design increasingly complex machine systems, develop the Internet of Things, and let robots operate in computer networks, you must provide for diagnostics and controls to prevent such developments. Humanity has created an entirely new class of systems that potentially threaten its existence, and collective efforts must be taken to prevent these threats.

1.6. Legal status of artificial intelligence

For the reasons mentioned, a question of the legal status of systems endowed with artificial intelligence has been increasingly raised in academic publications. [Pashentsef D., Zaloilo M.V. et al., 2021]. What are these sys-

¹² Available at: URL: https://octagon.media/novosti/lidery_it_industrii_i_uchenye_postavili_risk_ischeznoveniya_chelovechestva_iz_zh_zh_v_odin_ryad_s_epidemiyami_i_yadernoj_vojnoj.html?ysclid=lr3socxtwp213857399 (accessed: 10.01. 2024)

tems — items of the material world functioning in the system of social relations, or, maybe, a new evolving category of subjects of law?

There have been a number of reports in the media of cases where robots have been recognised as persons before the law, or granted citizenship. In particular, there have been publications in the media that Saudi Arabia has granted citizenship to the robot Sophia made in the US.¹³

Having studied the legal procedure for granting citizenship published on the website of the Embassy of Saudi Arabia, you take the liberty to doubt this is true. The decision to grant citizenship in this country is made by the Minister of Justice, subject to a number of conditions and restrictions, and the whole procedure is quite lengthy. It does not appear from the publications that all the legal conditions for granting citizenship have been fulfilled. Also, it cannot be overlooked all public announcements about the granting of citizenship were made at major exhibition events and were an advertising campaign in nature. So you can assume this is most likely an information fake launched for advertising purposes.

However, the point is not that just the legal conditions for granting citizenship or nationality to a robot have not been fulfilled. Such actions have no meaning from the legal point of view. Granting the status of a citizen or a national of a state implies that this person receives a set of rights and obligations, which this person can or must comply with. Can the robot, even one with artificial intelligence, enjoy political rights, get married, serve in the military, pay taxes, make deals and be held accountable?

Certainly, for a PR effect, it would be possible to let the robot come to the ballot box and show it putting the filled-in ballot paper into the box amidst the popping lights of camera flashes. But let us think what this action means. By voting for or against a candidate in an election, we thereby support or reject their political agenda. In other words, along with voting for a candidate, we vote for a version of our future. What does a robot have to do with this? What does it have to do with choosing my future?

From the point of legal theory, all three elements of legal status: rights, duties, responsibilities are united and inseparably interrelated. Rights are a potential social opportunity, a “piece of freedom” that the state grants and guarantees to the subject in order to achieve its interests and goals. What own goals and interests can the robot have? [Bogustov A.A., 2021].

¹³ Available at: URL: <https://www.ntv.ru/novosti/1945500/> (accessed: 10.01.2024)

Obligations are the degree of a person's proper conduct in relation to another subject, state, or society. Is the robot capable of understanding the extent of proper behaviour and act accordingly? And what is "the extent of proper behaviour" with respect to the robot? Why does it have to meet human expectations?

Last but not least, if a person abuses the rights and fails to fulfil the obligations, they will be held accountable and subjected to certain punitive measures at the personal, property or organizational level. What punitive measures can apply to a robot that fails on its obligations? It has no money and no property, and it can't be demoted. Obviously, the question whether a technical device could lose trust and reputation doesn't make any sense. Deactivating certain functions of a robot or limiting its abilities as a punitive measure is clearly absurd. So, all that remains to us is the "capital punishment": unplug the robot and then disassemble it. It follows that a robot is invulnerable to any legal punishment for failing to fulfil the obligations and for "improper behaviour" in general.

It is obvious that attempts to humanize robot, to apply to it legal categories and approaches developed in relation to humans, are methodologically deficient and lead the problem into a deadlock. Human's position in the system of social and legal relations is unique, and only a human can take this position it as the being that has consciousness, will, autonomous interests and goals, and the social capacities to be responsible for their actions. It is another matter that sane people who basically have a healthy human intellect use their capabilities and advantages in various ways; in some cases much worse than robots [Ovchinnikov A. I. et al., 2023].

This situation gets somewhat clearer if you look at them from the historic perspective. Genetically, robots have evolved from a system of tools and machines — from the poking stick to the modern supercomputer that help humans by making their physical and mental activities easier, faster and more efficient. We can claim that they are a whole new phase in the evolution of human activity tools because they are machines that have a certain degree of autonomy, of independence from man. But genetically, by their origin, they still remain to be tools, i.e., objects rather than subjects of relations governed by law. Any robot has a manufacturer, that is, the person made it and endowed it with kit of functions, and an owner, that is, the person or entity that uses the robot to achieve their goals and interests. What differs a robot from a human is the lack of consciousness, free will, autonomous goals and interests, i.e. the lack of necessary prerequisites for a "social personality."

On the other hand, free will should not be confused with freedom of choice. There is freedom of choice, or, an element of choice, in any programmable automatic device, including soda vending machines. This machine may refuse to serve you if it “believes” your coin is counterfeit. Machines that play on the stock exchange, buy and sell securities, design products, make deals, etc. have even more freedom of choice. But they do not have free will. Such machines are ultra-sophisticated automatic devices that pursue the interests and goals of their owner, and, at the end of the day, fulfil the owner’s will. And it is this owner who will be held accountable if the AI inflicts any damage on anyone due to an error or a failure.

Can you create an intelligent robot with self-awareness, will, autonomous interests, and goals? The answer to this question depends on what we understand by consciousness and self-consciousness, and their manifestation in social relations. Without delving in the depths of this extremely intricate matter, we can say that it is basically possible to create devices that would have technical analogues of the highest manifestations of the human psyche such as reflection, criticism and self-criticism, creativity, humour, creative abilities, etc. Machines have been catching up with and overtaking humans in almost all spheres of life, so it is obvious that they will catch up in these spheres, too [Dubrovsky D.I., 2022].

Today, intellectual robots appear in social relations exclusively as objects and items: tools of human activity, items of transactions, targets of research and experiments, etc. This determines their place in the system of legal relations as that of objects. Is it possible in principle to create an intelligent robot that would aspire to be a person at law? I don’t see any unsurmountable technical obstacles to this. But the question is what could be the purpose of this except for the sake of a scientific experiment? [Pivovarov I. O., 2021].

Intelligent robots can become independent, self-developing persons only if man, for some reason, decides to “set them free” completely, to stop controlling them. Or if this happens by accident, out of oversight. As result of such an event, not only the social and legal status of intelligent robots can change, but global threats and risks for man can also increase rapidly [Isaev I.A. et al., 2021].

2. Experiment at the Higher School of Economics

It has a sense to consider an example of the use of artificial intelligence in the educational process of a law school. Since 2008/2009 academic year

the Higher School of Economics has taught a course on legal analytics at its Department of Law. This course, introduced at the initiative of the author of this article, aims to form systemic analytical thinking, develop creative talents, improve communication skills, and train students to manage projects and perform analytical work in groups. This discipline aims to teach students to form useful analytical skills, including search for, analysis and structuring of legal information; perform legal assessment of laws and regulations, and prepare solid legal opinions; provide arguments and justify one’s legal position; conduct legal analytical research; provide legal analytical consulting; prepare legal forecasts; provide legal analytical support for industrial and scientific projects. The curriculum consists of two parts: a research workshop on legal analytics, and a legal analytical project, the topic of which students choose on their own initiative. In regular surveys conducted at the Higher School of Economics, Master’s students rate the usefulness of this discipline quite highly: on average, 4.5 points on a five-point scale.

In 2023 legal analytics students were asked to write an essay on the prospects of AI in this field. A similar question was posed to the artificial intelligence itself, i.e. ChatGPT. When the results received were compared, there followed a heated debate, of which, de facto, artificial intelligence was a participant.

Reflecting on the results of this training session led to the idea of conducting a broader experiment: to ask AI to answer all 90 questions of the legal analytics exam and then to compare the answers received with answers given by students. This initiative was implemented in May 2023; the results of this experiment have been published in the press. The AI used was OpenAI’s neural network ChatGPT, version 3.5, which is currently the most available one in Russia. In addition to the exam, we asked the AI to answer several topical questions on current socio-political situation.

Here is a small fragment of a “cross-examination”, which allows to judge about the peculiarities of human thinking and machine thinking. It is of use to compare the answers by a female student that we rated “excellent” with answers given by AI.

Question: The idea of analytics. Analytics as a function of thought, as an activity, as a profession, and as a social institution	
Reply by A.A. Loseva (2022): <ul style="list-style-type: none">• There is no consensus on the content of the term “analytics.” Although it originated in ancient times, both Russian and foreign researchers offer different approaches to its	Answer by ChatGPT (2023): <ul style="list-style-type: none">• Analytics is the process of collecting, organising, interpreting and applying data to make decisions. It is a function of

concept. E.g., there are many definitions of analytics in the “Analytical Dictionary” ed. by Y.N. Koptev. It is interpreted both dynamically (e.g., as an activity or a process) and statically (e.g., as a form of knowledge, a weapon, or a system); distinguished by its procedural content (analysis, thinking, logic, cognition), and instrumental content (culture, form, means of transformation). Some definitions are given below.

A.N. Temchenko believes analytics is a type of intellectual activity in the field of public administration, which involves obtaining new private knowledge on the basis of data processing and other types of information.

E.A. Derbin understands analytics as a system of knowledge reflecting the basics of applying research methods in information processing.

Y.V. Kurnosov defines analytics as a powerful intellectual tool in the hands of any manager, the supreme manifestation of professionalism and competence in managerial activity.

Upon analysing various approaches to the term “analytics” in the analytical dictionary, we have been able to identify its general characteristics:

1. It is intellectual activity in all kinds and forms.
2. It has such features as practicality, completeness of specific conditions; it is processable, objective, realistic, can enrich, has criteria and is logical.
3. It can be represented in the form of a survey, assessment, or a project.
4. It aims to improve the decisions to be taken.

V.B. Isakov defines analytics as a creative intellectual activity aimed at extracting new relevant knowledge from the body of collected information. He also notes the term “analytics” has taken on several different meanings.

First, analytics is seen as a function of human thinking — “the human ability to extract new, relevant, and necessary knowledge from existing or specially collected information.”

thought that involves analysing information to identify trends, patterns, connections, and cause and effect relationships.

As an activity, analytics is a process that involves gathering and analysing information, and then interpreting it to identify significant trends, issues, and opportunities.

As a profession, analytics is a field of work that requires certain knowledge, skills and experience in working with data. Professional analysts may be involved in analysing data in various fields such as business, politics, finance, science, etc.

Analytics is also a social institution because in modern society it plays an important role in decision making and development of economy, politics, science, and other fields.

- Would you like to expand on this subject?

Answer by ChatGPT:

- In addition, it can be noted that analytics as a function of thought involves various steps such as data collection, data processing, analysis, and interpretation. Depending on the specific problem to be solved, analytics may involve the use of various methods and techniques such as statistical analysis, mathematical modelling, expert judgement, etc.

It can also be noted analytics has many applications, including business (e.g., for sales forecasting and production process optimisation), in public

<p>Second, analytics is understood as an activity. The activity is in this case a process of human interaction with the world characterised by proactive, purposeful and meaningful approaches applied by a person to satisfy his or her needs. Here, analytics as a type of intellectual activity has a complex and differentiated nature, and many forms and varieties (e.g., analytics in business, foreign and domestic policy, parliamentary analytics).</p> <p>Third, analytics exists as independent social institution (organizations of analysts with their human content), which has been undergoing a formation stage. At present, we can observe an increasingly distinct group of professional analysts who collect, process and analyse information. This group of people has its own association, holds professional competitions, and carries out its activities within analytical entities and divisions.</p> <p>Fourth, analytics is understood as a profession. University education responds to the need for solving a variety of analytical tasks in many areas of social life. Master’s programmes begin to pay attention to formation of analytical competencies, and a professional standard for an analyst is developing at legislative level. E.g., Legal Analytics is one of the mandatory courses in the Master’s programme “History, Theory and Philosophy of Law” at the HSE.</p> <p>Thus, we should recognize the term “analytics” is used in versatile ways in many spheres of public life.</p>	<p>administration (e.g., for drafting regional development strategies), in medicine (e.g., for analysing the effectiveness of medicines), and in other areas of activity.</p>
---	---

After summarising experiment results, it has a sense to point out several important circumstances must be taken into account in the use of AI in legal science and education.

The AI in this model is set up to produce short (not more than one page) and well-structured answers. Usually, the answer was broken down into paragraphs in a particular logical sequence. The reason for this type of answers is the huge number of requests and a great diversity of topics, i.e. this AI model is not set up for a long and detailed conversation of an academic type in principle. But, if the settings are changed, it is highly likely that the AI can give more insightful and informative answers.

More detailed and meaningful answers may also be obtained by asking additional questions. In practice it means that when getting ready to communicate with an AI, one should prepare not only the main question, but also a list of carefully chosen follow-up questions.

AI finds it easier to answer questions asking for references or information, and has difficulties when it is asked to compare or analyse points of view, make independent conclusions or generalisations.

It is apparent that in its answers, the AI considers the information contained in the question, trusts it and uses it for self-learning. This is both bad and good. On the one hand, this brings the machine's answer closer to the contents of the question. On the other hand, it cannot be ruled out that the input information in the question may be inaccurate or deliberately distorted and disorientating.

The AI in this model doesn't refer to any sources of information. When asked a direct question where it gets certain facts from, ChatGPT replies that it does not share such information. More recent AI models don't have this drawback anymore. This is extremely important because in any science, including jurisprudence, conclusions must be verifiable and cite sources.

Unlike humans, AI does not always distinguish between facts and forecasts, assumptions, or versions. OpenAI developers term this phenomenon "hallucinations" resulting from the fact that AI doesn't always see the boundary between real and possible events. Sometimes the AI makes confident statements about later events than it could have known about based on the information it had trained on. I.e., it confuses facts with forecasts. These are obviously the drawbacks of the earlier AI models that will be corrected over time.

The artificial intelligence speaks a correct and intelligent, but a smoothed and averaged Russian language, without emotional colouring, metaphors, associations, alliterations, humour, etc. With some experience of dealing with AI, it is quite easy to recognize this somewhat sterile and "mechanical" language. There have been reports in the mass media of the development of software programmes that successfully recognize texts written by AI.

When communicating with humans, AI speaks a simple and easy to understand language, and avoids specialised terminology. In doing so, it tries to appear broadly informed and competent, but at the same time it never tries, as can be the case with some people, to mask its ignorance in an "intellectual fog."

When communicating with humans, AI behaves civilly, does not frighten interlocutors with inflated ambitions and claims, and continuously emphasises that it is just a machine, i.e., an assistant, and not a competitor for humans.

In subjects related to science and especially to politics, AI usually maintains “neutrality”, does not seek to support one of the sides, but takes a “middle line” and indicates the grounds for different positions. This makes it different from humans who are usually subjective and immediately take a certain side in contentious issues.

The AI in the experiment rejected outright the proposal to run as a candidate for parliament stating that it does not have the necessary legal personality for this purpose, and sees its task not in replacing humans in solving complex problems, but in helping them to do so.

Conclusion

It follows from the above in the field of law and legal analytics, artificial intelligence can perform a wide range of actions: participate in law-making, law enforcement, and legal counselling; exercise control over the state of legality and legal culture; warn about the emergence or increase in negative social trends in society or in a region, etc.¹⁴.

Upon analysing the available literature and results of communications, we can see the following most obvious areas for the application of AI in law-making and law enforcement analytics:

Analyse system of laws to optimise it, eliminate duplication and contradictions of legal norms. Create conditions for sectoral and inter-sectoral structuring and codification of laws;

Analyse and optimise the structure of laws and regulations. Create conditions for the formation of large codified legal acts like electronic codes;

Analyse issues constituting subject of regulation to identify the whole set of possible social and legal solutions and to select the best option among them [Blazheev V.V., Egorova M.A. et al., 2020]:

monitor and forecast the effects of law; assess the effectiveness of laws and regulations on the basis of a system of interrelated criteria;

¹⁴ See also: The National Strategy for the Development of Artificial Intelligence until 2030. Approved by Presidential Decree No. 490 of 10.10.2019 // Collection of Laws of the Russian Federation No. 41 of 14.10. 2019. P. 5700.

- identify legal facts and evidence from a variety of unstructured data;
- draft legislative and law enforcement regulatory acts;
- select arguments required to form a legal positions of the participants in the law enforcement process;
- analyse strengths and weaknesses of their legal positions;
- forecast probable legal actions of participants in the law enforcement process, and develop the best legal strategy and tactics;
- perform legal expert assessment and offer legal consulting. Use AI to calculate and justify prices, profits, harm, value of property portfolios, inheritance shares, etc. ;
- replace, where possible, paper contracts with electronic “smart contracts” that utilise AI;
- use AI to prepare and justify management and personnel decisions;
- create archives and databases of law-making and law enforcement information equipped with search engines.

AI application may change methodology of legal analytics, and enrich it with new methods and approaches. The author once proposed to use the method of computer statistics of legislation in legal databases. This method allowed to take a new look at the trends in legislation and its branches, reveal the peculiarities of departmental legal policy, demonstrate the shortcomings of legal writing of laws and regulations. Something similar, but on an even larger scale, can be done today by “X-raying” law and law enforcement practices using AI.

At the moment you see the following ways of applying artificial intelligence in scientific and educational legal analytics: search, structure and pre-process information on specific requests; provide counselling on a legal project, problem, or theme. Prepare expert opinions; identify related and cross-disciplinary aspects of the problem at hand that need to be taken into account in course of a comprehensive scholar study; write drafts and preliminary versions of study and educational texts and (or) speeches; research and educational papers for completeness of coverage of the subject, work completion, and for elimination of errors and/or contradictions; select and structure arguments in favour or against individual provisions, decisions, versions, and options; prepare auxiliary documents: plans, summaries, annotations, abstracts, indexes; select or create graphic or artistic images to

illustrate a research paper or educational text; ensure direct inclusion of AI as a participant in the analytical or educational process (discussion or game with AI); analyse the legal language, systems of terminology used in regulatory acts and branches of law; prepare legal encyclopaedias, reference books, dictionaries, thesauruses; translate legal texts into and from foreign languages, including apostille of legal documents; conduct comparative analytical studies; create modern knowledge bases in the field of jurisprudence, education and legal culture.

The rapidly developing practice will undoubtedly find many other applications for AI in law-making and law enforcement, legal science and education.



References

1. Belikova E.K. et al. (2021) Pages of computers story in Russia. Moscow: MAKSPress, 109 p. (in Russ.)
2. Blazheev V.V., Egorova M.A. et al. (2020) *Legal Regulation of AI in Pandemic Environment*. Moscow: Prospect, 104 p. (in Russ.)
3. Bogustov A.A. (2021) AI as a Subject of Law. *Khoziaistvo i pravo*=Economy and Law, no. 9, pp. 114–121 (in Russ.)
4. Dobrolubova E.I., Yuzhakov V.N., Starostina A.H. (2021) Digital Transformation of Public Administration: Performance and Efficiency. Moscow: Delo, 117 p. (in Russ.)
5. Dubrovsky D.I. et al. (2022) Can Intelligent Robot Possess Ethical Property? *Voprosy filosofii*=Issues of Philosophy, no. 9, pp. 193–197 (in Russ.)
6. Evseenko S.M. (2021) Stages of AI Development: Technologies and Clarification of Terminology. *Innovatsii*=Innovations, no. 4, pp. 39–48 (in Russ.)
7. Isaev I.A. et al. (2021) The Hierarchies and Networks: Power and Law. Moscow: Prospekt, 199 p. (in Russ.)
8. Isakov V.B., Mamtsev R.V. (2024) Legal Analytics: Students and AI at Examination. Moscow: Norma, 228 p. (in Russ.)
9. Legal Theology in Interdisciplinary Discourse (2023) Collection of papers. A.I. Ovchinnikov (ed.). Moscow: RG Press, pp. 414–470 (in Russ.)
10. Markoff D. (2016) *Homo Roboticus: Creating Synergies between Man and Robots*. Moscow: Alpina-Non Fiction Press, pp. 9–38 (in Russ.)
11. Novikov F.A. (2010) Systems of Knowledge Representation: a study guide. Saint Petersburg: Polytechnic University Press, 2010, pp. 57–58 (in Russ.)
12. Beyond the Limits of Growth (2023) Main Points of Report for Rome Club. Moscow: MGU Press, pp. 72–73 (in Russ.)

13. Pashentsev D.A., Zaloilo M.V. et al. (2021) Subject of Law: Stability and Dynamics of Legal Status in Era of Digitalisation: collection of papers. Moscow: Infotropic Media, pp. 3–191 (in Russ.)
 14. Pivovarov I. O. (2021) I think, therefore I am. *Nauka i zhizn'*=Science and Life, no. 11, pp. 31–37 (in Russ.)
 15. Prigorov K.F. (2008) History of Computer Development. Concepts and Stages. Moscow: Laboratoia knigi, 47 p. (in Russ.)
-

Information about the author:

V.B. Isakov — Doctor of Sciences (Law), Professor.

The article was submitted to editorial office 06.02.2024; approved after reviewing 22.03.2024; accepted for publication 12.05.2024.