



## **STRATEGIES AND FUTURE PROSPECTS OF DEVELOPMENT OF ARTIFICIAL INTELLIGENCE: WORLD EXPERIENCE**

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<p><b>Received:</b> February 1<sup>st</sup> 2022 <b>Accepted:</b> March 6<sup>th</sup> 2022 <b>Published:</b> April 20<sup>th</sup> 2022</p>	<p>In this article, the author discusses the issue of the concept of artificial intelligence, strategies for its development in many foreign countries and Uzbekistan. In particular, the conceptual issues of the development of artificial intelligence are discussed by such global participants of artificial intelligence as the United States, China, the European Union, etc. After studying and analysing the steps of artificial intelligence the author came to conclusion that without a well-planned strategic plan, it is impossible to develop artificial intelligence in Uzbekistan. Furthermore, the first steps on the way of introducing artificial intelligence into all spheres and sectors of Uzbekistan are considered, in particular, industry, medicine, science, transport and communications, etc. Based on the analysis of many strategies and plans of the above states, as well as India, the UAE, Canada, Japan, the author presents his own vision and recommendations for the development of artificial intelligence systems in our country.</p>

**Keywords:** Artificial Intelligence, Digitalization, Development, Strategy, Implementation, Robotization, Technology, IT Industry.

### **INTRODUCTION**

We have entered into the digital era, and there is no doubt that artificial intelligence is the future of all mankind. It will create tremendous opportunities for humanity, but there may also be threats that cannot be predicted. Whoever becomes a leader in the development of this area will rule the world.

Indeed, today we may truly state that artificial intelligence (AI) technologies are capable of completely and irrevocably changing our lives. According to many experts, scientists and politicians, we are in the middle of the fourth industrial revolution, with AI in the pole-position, which will completely change our society in the next decades. Even today, AI is changing many aspects of people's lives and bringing significant effect to society and the economics through its introduction into the field of healthcare, public administration, education, transport and communications.

For Uzbek scientists, understanding and analyzing AI is of fundamental importance for solving the challenges of the future and the possibility of competing with world leaders IT industry. In this regard, it is necessary to study the progressive foreign experience and answer the following questions: how AI technologies are used in Europe and other countries, what rules have been adopted to regulate them, what

rules are planned to be adopted in the coming years, how innovations and brands in the field of AI are created in the EU countries. In the current paper, we will try to explore the structure of AI in Europe, the United States, China, which are world leaders in the sphere of IT.

Uzbekistan should also form legislation in the field of AI development, new rules are needed to guarantee the principles, rights and freedoms of using AI. In order to cope with the considerable lag in the development of AI in comparison with world leaders, Uzbekistan must respond to this by defining two goals: on the one hand, to create a favorable environment for investment; on the other hand, to try to create high-quality AI brands. In addition, it is necessary to organize a kind of ethical norms and arbitration in this area, spreading rules and recommendations in the digital environment.

*Analysis of existing opinions and ideas concerning the nature of artificial intelligence*

Stephen Hawking once said: "Success in creating an effective AI can be the greatest event in the history of our civilization. Or worse. We just don't know. So, we can't know if AI will help us endlessly, or if it will ignore us and push us into the background, or perhaps destroy us.... If we don't learn to prepare for potential



risks and avoid them, AI can become the worst event in the history of our civilization." [1] Nevertheless, despite such concerns, the presence of AI is becoming increasingly widespread today: it is used in email filtering, text translation and editing, formatting and creating profiles in social networks, is present in the form of electronic applications in the defense industry, business and all industries [2].

Today, the difficulty lies in the inconsistency of AI, the inability to give it a clear and comprehensive definition. So, some define it as a complex system that has reasonable behavior based on environmental analysis [3], others explain the nature of AI in the form of a machine or apparatus that observes, learns and takes appropriate measures based on acquired experience [4]. Although all researchers agree that AI is an intelligent system, many add the concept of machine learning (ML) to it [5]. However, despite all the progress that has been made, AI is still limited, and more time and investment is needed before a human-thinking machine appears. As Professor M. Wooldridge (Oxford) notes, "... the creation of a human level of artificial intelligence is something like the Apollo program. Its development will take decades" [6]. At the same time, the doctrine of machine learning (ML) is increasingly spreading today, when AI is viewed as a system that constantly improves characteristics through the acquisition of experience and data, that is, it is "the ability to learn without explicit programming" [7].

In general, today the latest concept of the nature of AI has priority and, in our opinion, more accurately reflects the nature of AI in both technical and philosophical aspects.

## **MATERIALS AND METHODS**

The purpose of the study is to study AI development strategies in the leading world powers, to form recommendations and proposals to increase the potential of Uzbekistan in the field of AI and to develop a national program document in the field of AI development.

In the course of the work, such methods of scientific cognition as comparative analysis, SWOT analysis, observation, analysis of statistical data and ratings of world indices were used.

Suggestions and recommendations can be applied in the development of a national strategy for the development of AI and the effective implementation of AI technology products in the conditions of digitalization of the economy of Uzbekistan.

## **RESEARCH RESULTS**

### *The global race for leadership in the field of AI*

Despite the existence of not always optimistic forecasts about the development of AI, today there is a clear picture of the potential advantages of AI for society, economy and politics. Therefore, many countries have long started developing programs and strategies for creating and using AI products. At the same time, as Tim Dutton, the founder of Politics + AI, rightly emphasizes, "no two strategies are the same, each of them focuses on different aspects of the development of AI technologies: science, human development, education, public administration, business, ethics and inclusiveness of AI, development of standards and rules, as well as digital infrastructure" [8].

The differences in the strategies for creating and developing AI are quite understandable, since it is still a new scientific and production site, so the innovative nature of AI attracts not only frequent industrialists, but also attracts close attention from politicians. This is due to a combination of several factors. Firstly, the development of AI requires the creation of a regulatory framework and active efforts to provide the necessary resources (production, human, financial, etc.). On the other hand, hypothetically AI carries certain threats due to the uncertainty of their potential growth, self-learning, so governments around the world are to some extent forced to "control the evolution of technologies, should guide it and strive to set global standards and best practices, ensuring that technologies based on artificial intelligence increase the value of society" [9].

It is worth noting that the desire of world states to develop AI has quite specific dividends. Today, AI has a huge impact on the global economy: according to forecasts, investments in AI have grown from 6.4 billion euros in 2016 to 37.8 billion euros in 2020 [10].

Currently, the priority of AI development is in such areas as the agricultural complex, medicine, mobile communications and defense security. Over the past three years, dozens of countries in Europe, North America and Asia have launched AI projects [11]. Nevertheless, China, the USA and the EU are becoming the world leaders of the AI industry so far. At the same time, although the United States still retains leadership in the field of AI research and development, China may very soon take a leading position [12]. At the same time, despite all efforts, the European Union is still far from these two players and occupies only the third place in the world AI ranking.

### *Artificial intelligence in the USA*



The United States has always sought to be at the center of the emergence of new technologies and, one might say, has concentrated in its hands the inventions of almost the whole world. Back in 2016, the US National Council on Science and Technology stressed that "AI can become the main engine of economic growth and social progress if industry, civil society, government and the public work together to support and develop technology, pay special attention to its potential and risk management... In many areas of public policy, from education and the system of economic security to defense, environmental protection and criminal justice, new opportunities and new challenges will arise due to the constant progress of AI" [13]. The US national strategy focuses on the following areas:

- investments in medium- and long-term research and development;
- development of machine-human interaction;
- analysis and solution of legal, ethical and social consequences of AI;
- improving the security and security of AI;
- definition of general criteria and standards for the evaluation of AI.

This AI strategy has been confirmed by the long-term strategy of the Defense Projects Research Agency (DARPA), which implements more than 20 programs studying the ways of using modern AI systems, developing new machine learning methods in cooperation with the US Department of Defense. In addition, there are about 60 active programs for the use of AI in a particular area of defense, for example, for the detection and identification of cyber threats, foreign intelligence, etc. [14].

However, in comparison with other countries included in the global race for leadership in the field of AI, the United States is not a key player in the development of new technologies. Breakthrough AI technologies are represented by the so-called big five GAFAM (Google, Apple, Facebook, Amazon and Microsoft), which invests hundreds of billions of US dollars in improving artificial intelligence technologies.

The superiority of the United States is demonstrated most of all in financial terms. Thus, global AI spending amounts to more than \$ 35.8 billion [15], and the US market is considered the largest with 43% of the global market compared to 15% in Europe and Asia [16]. The strength of the US tech giants depends on the large amount of data they collect and analyze around the world, because, as the recent scandal around Facebook and Cambridge Analytica has shown, data on the Internet is used, as a rule, for marketing,

political and other purposes, while AI algorithms play an important role in their collection and processing.

#### *Artificial Intelligence in China*

The AI system in China is most developed in a few application areas, such as image, face and voice recognition. Actually, it is in these areas that the Chinese have already outstripped the United States. China has already identified AI as a key factor in its future socio-economic development. So, in his speech in October 2018, Chinese President Xi Jinping stressed the importance of AI in China's future, saying that "AI is a vital driving force of a new round of technological revolution and industrial transformation, and accelerating AI development is a strategic issue... We need to strengthen the combination of AI and public control, develop AI systems for public services and decision-making"[17]. Since 2014, the government has unveiled a number of key national economic plans aimed at creating an AI market in China with a volume of over 13 billion euros (by 2018) and completing the AI development plan in the first place in the world by 2030 [18].

The AI development strategy in China is divided into three stages:

*The first stage* was completed in 2020, it was aimed at creating and improving AI systems for processing large databases, intelligence, hybrid improved AI and autonomous intelligent systems, bringing together talented AI personnel around the world and creating basic standards and rules in the field of AI law, ethics and policy.

*The second stage*, which should be implemented by 2025, will make AI the main tool for China's industrial development and economic progress, AI will be used in almost all areas, such as manufacturing, medicine, defense and security, and China will also become a leader in R&D, in addition, new laws, regulations, norms designed to create a proper basis for new technologies.

*The third stage* is expected to be completed in 2030 and will pursue the goal of making China the world's leading center of AI innovation, expanding the use of AI in every possible way and globally, including in the field of social management and national defense, as well as creating advanced AI innovations for personnel training [19].

An interesting feature of China is that various initiatives to develop a national complex of AI systems at the local, regional and national levels were launched in the private sector, and only after successful testing were developed in the public sphere. For example, we can mention such projects as the Robot Industry



Development Plan (2016-2020) and New Generation 2017 [20].

*European prospects for artificial intelligence*

Today in Europe, however, as well as all over the world, digitalization has a huge impact on labor productivity, employment, various business models and management in the public sector. The presence of global AI players poses strategic challenges for the EU to develop a new regulatory framework. In recent years, the Strategy of a single digital market has radically changed the prospects of AI in Europe, which traditionally tries to create a common legislative framework for its members and develop a unified European approach.

In 2017, the European Parliament adopted a resolution on Civil Law and Robotics. In this document, the European Parliament has developed an ethical code and principles concerning the development of robotics and AI, and called on European countries to develop and act together. A proposal was also put forward to establish a European Robotics and Artificial Intelligence Agency to provide the technical, ethical and regulatory knowledge necessary to support relevant state actors both at the EU and Member States level [21].

The next step was the adoption of the Declaration of Cooperation in the field of AI on April 10, 2018. At the time, Andrus Ansip, former Commissioner for the Digital Single Market and former vice-president of the European Commission, emphasized the pan-European nature of the efforts: "In Europe, any successful AI strategy should be cross-border. A large number of Member States have agreed to work together on the opportunities and challenges posed by AI. The collaboration will focus on strengthening European AI research centres, creating synergies in R&D financing schemes across Europe, and exchanging views on the impact of AI on society and the economy. The Member States will maintain an ongoing dialogue with the Commission, which will act as a coordinator"[23].

In order to complete the ambitious plan to become a leader, in addition to investments in Horizon 2020 research in the amount of 2.6 billion euros and research support in the amount of 1.5 billion euros during 2018 and 2020, the European Commission proposed to create a so-called "European Alliance of Artificial Intelligence", which will unite enterprises, consumers, trade unions and other representatives of civil society on the one hand, and on the other hand, the EU institutions. According to the European Commission, "the Alliance will become a platform for sharing best practices, encouraging private investment and activities related to the development of AI" [23]. The goal was set to reach at least 20 billion euros of

private and public investment by the end of 2020, which is important for economic growth and job creation [24].

EU institutions have not limited their actions to establishing appropriate rules and standards for AI, they have also put forward appropriate initiatives for the development of specific technologies, such as AI chips, 5G, high-performance computing and databases, Clean Energy for All Europeans programs, etc. [25].

The EU's approach does have structural differences from the leading AI countries. Both the USA, China, and the EU have been working on the development of ethical AI. Although these approaches have cardinal differences, they have one big thing in common: the lack of strict regulation of AI ethics. The US, for example, uses a self-regulation approach through a system of private enterprises. Major companies such as Amazon, Microsoft and Apple have long adopted a set of principles that must be followed when using and developing AI systems [26]. China is also on the path of self-regulation. In the 2017 Plan for the Development of a New Generation of Artificial Intelligence [27], one of the goals was to establish rules and ethical norms regarding AI. In June 2019, a document compiled by the Committee of Experts on the Management of a New Generation of AI was published and provides for eight principles regarding AI. It emphasizes such principles as fairness and honesty in the development of AI, respect for privacy, compliance with human values and well-being, security and accountability of AI [28].

The EU, by contrast, has always focused on developing a human-centered approach to AI that would put humans at the center of AI development, while at the same time trying to create and design AI that is trustworthy. As an example, we can take the Law on Responsibility: even if the AI has and will have a certain autonomy, the human operator must always be responsible for its actions. According to the expert group on liability and new technologies created by the Commission, AI and other emerging digital technologies are transforming liability legislation [29].

*A brief analysis of the strategies of other global players in the field of artificial intelligence*

The following is a brief analysis of artificial intelligence strategies developed by the United Kingdom, Canada, India, Japan, South Korea and the United Arab Emirates.

The UK's path to developing AI legislation began in 2016 with an open letter from the Science and Technology Council (CST) to the Prime Minister entitled "Robotics, Automation and Artificial Intelligence (RAAI)". With this letter, CST appealed to the government with a request to create a legal framework



that will contribute to the development of AI, while simultaneously increasing the level of knowledge and technological literacy among citizens [30]. After that, the UK launched an AI Sector Agreement in 2018 to promote AI business in the UK. In particular, the AI sector development concept focuses on five key commitments:

- to become the most innovative economy in the world with public investments of 300 million pounds in R&D and data science, as well as cooperation with academia and the research community;
- creating jobs with greater profitability for everyone, supporting digital education in schools and universities through investments of 400 million pounds, supporting global talent;
- major upgrade of the UK infrastructure, creation of a Geospatial Commission to improve access to geospatial data, promotion of legal certainty in the use of data;
- to become the best place to start and develop a business, the creation of an AI Council as an adviser to the government and an investment fund of 2.5 billion pounds to support business and innovation;
- Creation and support of AI communities across the UK, expansion of key AI development clusters, in particular the Alan Turing Institute, so that it turns into a national academic institute of AI and data science [30].

In 2017, the Government of Canada commissioned the Canadian Institute for Advanced Research (CIFAR) to develop an artificial intelligence strategy. The task was given to focus on four key issues:

- strengthening the culture of artificial intelligence in Canada by increasing the number of researchers and qualified graduates;
- commissioning of three large artificial intelligence centres in Edmonton, Montreal and Toronto;
- leadership in the economic, ethical, political and legal framework of AI;
- funding of the research community in the field of AI [32].

In 2019, Canada published the Automated Decision-Making Directive, ensuring that "automated decision-making systems are designed in such a way as to reduce risks for Canadians and federal agencies and lead to a more effective, accurate, consistent and interpretable decision made in accordance with Canadian law" [33].

The main goal of India's artificial intelligence strategy is to reach all classes of society, pursuing three different goals:

- creating new opportunities for India;

- make society more inclusive while expanding growth;
- become a model for developing economies around the world.

India wanted to create a suitable platform for enterprises and organizations around the world to develop solutions that are easily implemented in other developing countries and countries with economies in transition in five different sectors where AI could benefit society quickly and efficiently: healthcare, agriculture, education, urbanization, social infrastructure, transport and communications.

According to the strategy, the implementation of AI in these sectors is possible only by creating a market for AI and a large number of players [34]. Combining the American and Chinese models, Japan announced in 2015 a five-year plan for the development of technology, innovation and science based on the strengthening of AI and robotics. The Japanese AI strategy is defined by the Fifth Basic Plan for Science and Technology (2016-2020), published in April 2016. It represents the first plan formulated by the Council for Science, Technology and Innovation (CSTI) in cooperation with several major research institutions and centers - the Center for Information and Neural Networks and the Communication Research Institute of the National Institute of Information and Communication Technologies, the Center for Advanced Intelligent Technologies of the RIKEN Institute of Physical and Chemical Research and the Research Centre artificial Intelligence of the National Institute of Advanced Industrial Sciences and Technology.

The ambitious plan of this country requires the broad participation of all players, the public sector, academia, business and citizens, requiring them to cooperate and work together to turn Japan into "the most innovation-friendly country in the world." The plan defines four main indicators of its development [35]:

- to create new values for the progress of the industry of the future and the transformation of society;
- improve the basics of R&D;
- solve social and economic problems,
- and ultimately create relationships between human resources, knowledge and capital for innovation.

In December 2016, the South Korean government announced a medium- and long-term Master Plan to prepare for an intelligent information society. According to this plan, the country is in the center of a new industrial revolution that will radically change society. One of the main goals of the strategic plan is to expand the capabilities of AI in the field of the Internet, large databases, mobile devices and cloud technologies. To implement the strategy, the



government planned to invest 1 trillion won (about \$840 million) in improving the AI industry by 2020.

The main objectives stated in the plan are as follows:

- development and development of data infrastructure and network;
- close cooperation with the private sector;
- medium- and long-term investments in fundamental sciences as a form of AI technology;
- launch of 5G and gigabit Internet services (starting in 2020) to accelerate the Fourth Industrial Revolution [36].

In May 2018, South Korea allocated another 2.2 trillion won to focus on three main priorities: training of 5,000 scientists in the field of AI, development of AI applications for national defense, medicine and public security, as well as infrastructure development, creation of incubators for startups [37].

In the development of AI in the Middle East, the United Arab Emirates is in the first place: They are indeed the first country in the world to create an AI ministry within the framework of the new national AI strategy 2031 [38]. Since 2018, the UAE has been closely engaged in developing a strategy for investing in AI technologies and tools to increase the productivity and efficiency of the UAE government in this area. The UAE is currently working on two different AI programs:

- National Artificial Intelligence Program, also known as "Creating a Nation of Responsive Artificial Intelligence" (BRAIN), – this is a program which goal is to maintain the progress made in the field of AI and robotics. It has already led to the growth of the Emirati economy by \$ 182 billion;

-The National AI Strategy 2031 is designed to help the UAE quickly adapt public administration to new technologies, as well as attract R&D talents. The UAE's ambitious goal is to become the world's leading AI leader by 2031, creating opportunities for both citizens and businesses while simultaneously growing economically [38].

In Uzbekistan, the AI development strategy was launched by the Decree of the President of the Republic of Uzbekistan "On measures to create conditions for the accelerated introduction of artificial intelligence technologies" dated February 17, 2021, he approved a program of measures for the study and implementation of artificial intelligence technology in 2021-2022, the main directions of which are:

- development of an AI development Strategy;
- development of the regulatory framework;
- wide use of AI technologies;
- creation of a local ecosystem of innovative developments in the field of AI;

- creating conditions for software developers using AI technologies to use digital data;

- formation of investment attractiveness of scientific works and developments in the field of AI;

- providing access to information resources and knowledge in the field of AI for local businesses and specialists;

- development of international cooperation in the field of AI and its application technologies.

A list of pilot projects for the introduction of AI technologies in 2021-2022 has been approved, which will be implemented in the following areas:

- monitoring of soil and agricultural crops in the field of agriculture based on remote sensing data, as well as the operation of agricultural machinery, including combines;

- monitoring the activities of commercial banks in the banking sector and simplifying their compliance with regulatory requirements (SubTech and Regtech), as well as analyzing the quality of banking services, remote biometric identification (Face-ID) and credit risk assessment;

- analysis and improvement of the efficiency of budget expenditures, pensions, social and insurance payments, as well as pension payments in the financial sector;

- analysis of tax revenues of legal entities in the field of taxation, identification of differences in tax payments;

- monitoring the movement of locomotives in the transport sector and notifying drivers of dangerous situations, analyzing the movement of public transport and determining their optimal directions, as well as monitoring traffic and traffic congestion;

- forecasting of production and consumption of energy resources in the energy sector, optimization of the operation of technological equipment;

- analysis and forecasting of market demand for medicines and medical devices in the pharmaceutical industry;

- remote biometric identification (Face-ID) of users when providing e-government services;

The Coordination Commission for the implementation of the Digital Uzbekistan 2030 Strategy has been instructed to submit proposals for the development of AI for the near and long term for approval by December 1, 2021.

According to the decree, a Research institute for the Development of Digital Technologies and Artificial Intelligence is being created in Uzbekistan under the Ministry for the Development of Information Technologies and Communications on the basis of the Scientific and Innovative Center for Information and



Communication Technologies at the Tashkent University of Information Technologies named after Muhammad al-Khorezmi and the Scientific and Practical Center for Intellectual and Software Systems at the National University of Uzbekistan named after Mirzo Ulugbek.

At the same time, the main tasks of this institution are:

- organization of scientific research aimed at the widespread implementation of the Digital Uzbekistan 2030 Strategy and the introduction of AI technologies in the sectors of the economy, the social sphere and the public administration system;

- conducting fundamental and applied scientific research in the field of AI, forming a scientific ecosystem for the development of digital technologies;

- development of innovative products for automation of management and production processes based on AI technologies, as well as their models, algorithms and software;

- establishment of cooperation and implementation of joint projects with leading foreign innovative and scientific institutions for the development of artificial intelligence technologies.

## CONCLUSIONS

AI is becoming a reality in our society day by day. AI can be used to create a safer world, but at the same time, too much trust in automation and machines can pose a real threat. Uzbekistan, although later than other countries, nevertheless began to develop its strategy. Despite the fact that we do not yet set goals to become a world leader in the field of AI, we must create all conditions for developers, enterprises and citizens so that they can develop and strengthen their capabilities in the field of artificial intelligence.

In this regard, we believe it is necessary to adhere to the following main directions of AI technology development in Uzbekistan:

- firstly, to accelerate changes in tax, customs and investment legislation in terms of accelerated inflow of investments in AI and digital technologies;

- secondly, in order to prevent the undesirable consequences of accelerated digitalization of all industries, public administration based on the technologies of the USA, EU, China and other countries, it is advisable to deploy production sites of global IT players in Uzbekistan with full control of all technological processes;

- thirdly, it is necessary to create a platform for finding talents and improving digital literacy, awareness of citizens about all technological achievements;

- fourth, when creating a National Artificial Intelligence Strategy, it is necessary to take into

account the world experience and implement all its positive aspects, abandoning any mechanisms that may have negative consequences.

Currently, in order to become a developed country and keep up with the rapidly changing world, it is absolutely necessary to have a strong strategy for the development of AI and other new technologies. In recent years, Uzbekistan has made progress in developing an artificial intelligence strategy, but for further development in the field of AI, the following measures need to be taken:

- 1) study of best practices and cooperation with the EU, USA, China and Japan, so that our country can achieve certain and effective goals for the introduction of AI in all spheres of economy and social life;

- 2) it is necessary to create a strong legal basis for providing artificial intelligence with the existing ethical rules that will not only protect, but also promote respect for human rights and respect for human dignity, define uniform requirements for responsibility, security and transparency in the development and use of artificial intelligence technologies in economic and social sectors, as well as in the public administration system;

- 3) it is necessary to create the appropriate infrastructure for the integrated development of this industry in the near and long term.

## REFERENCES

1. Stephen Hawking says A.I. could be 'worst event in the history of our civilization'. Available at: <https://www.cnbc.com/2017/11/06/stephen-hawking-ai-could-be-worst-event-in-civilization.html/>.
2. Joint research centre. Artificial Intelligence-A European Perspective, EUR 29425 EN, Publications Office, Luxembourg, 2018, p. 19.
3. European political strategy centre. The Age of Artificial Intelligence. Towards a European Strategy for Human-Centric Machines, Strategic Note, 2019, March 27, no. 29, p. 2.
4. Joint research centre. Artificial Intelligence-A European Perspective, cit., p. 19.
5. European commission. Factsheet-Artificial Intelligence for Europe, 2019, July 4.
6. Scott M. Artificial Intelligence isn't as smart as it thinks. Politico Europe, 2020, March 11.
7. Welcome to the Elements of AI free online course! Available at: <https://www.elementsofai.com/>.
8. Dutton T. An Overview of National AI Strategies. Politics + AI, 2018, June 28.



9. European political strategy centre. The Age of Artificial Intelligence. Towards a European Strategy for Human Centric Machines, cit., p. 3.
10. Accenture. Why Artificial Intelligence is the Future of Growth, 2016, June.
11. Joint research centre. Artificial Intelligence-A European Perspective, cit., p. 25.
12. Zicari R.V. On The Global AI Index. Interview with Alexandra Mousavizadeh, ODBMS Industry Watch, 2020, January 18.
13. Executive office of the president national science and technology council committee on technology. Preparing for the future of Artificial Intelligence, 2016, October, p. 39.
14. Creating. Breakthrough technologies and capabilities for national security. Available at: <https://www.darpa.mil/news-events/2018-09-07/>.
15. Krause R. Artificial intelligence stocks to buy and watch amid rising ai competition. Investor's Business Daily, 2019, December 12.
16. Surz R. U.S. Stock market is biggest & most expensive in world, but U.S. economy is not the most productive. Nasdaq, 2018, April 2.
17. Xin Z. Develop and control: Xi Jinping urges China to use artificial intelligence in race for tech future. South China Morning Post, 2018, October 31.
18. Joint research centre. Artificial Intelligence-A European Perspective, cit., p. 46.
18. Xin Z. Develop and control: Xi Jinping urges China to use artificial intelligence in race for tech future. South China Morning Post, 2018, October 3
19. Xin Z. Develop and control: Xi Jinping urges China to use artificial intelligence in race for tech future. South China Morning Post, 2018, October 31, p. 47-48
20. European Parliament resolution of 16 February 2017 with recommendations to the Commission. On Civil Law Rules on Robotics, 2015/2103(INL), OJ C 252, 2018, July 18, p. 245.
21. Shaping Europe's digital future. Digibyte10 April 2018. EU Member States sign up to cooperate on Artificial Intelligence. Available at: <https://ec.europa.eu/digital-single-market/en/news/eu-memberstates-sign-cooperate-artificial-intelligence/>.
22. Communication from The Commission to The European Parliament. The European Council, The Council, The European Economic and Social Committee and The Committee of The Regions, Artificial Intelligence for Europe, cit., p. 18.
23. Member States and Commission to work together to boost artificial intelligence "made in Europe" Available at: [https://ec.europa.eu/commission/presscorner/detail/en/IP\\_18\\_6689/](https://ec.europa.eu/commission/presscorner/detail/en/IP_18_6689/).
24. Joint research centre, Artificial Intelligence-A European Perspective, cit., p. 39
25. FATE: Fairness, Accountability, Transparency, and Ethics in AI. Available at: <https://www.microsoft.com/en-us/research/group/fate/>, <https://www.blog.google/technology/ai/ai-principles/>.
26. The DigiChina Project is a collaborative effort to understand Chinese technology policy developments, now based at Stanford University. Available at: <https://www.newamerica.org/cybersecurity-initiative/digichina/blog/full-translation-chinas-new-generation-artificial-intelligence-development-plan-2017/>
27. Li Keqiang Previews 'Digital China' Theme in 14th Five-Year Plan. Available at: <https://www.newamerica.org/cybersecurity-initiative/digichina/blog/translation-chinese-expert-group-offers-governance-principles-responsible-ai/>.
28. Expert group on liability and new technologies new technologies formation. Liability for Artificial Intelligence and other emerging digital technologies, European Commission, 2019, p. 4
29. Council for science and technology, Robotics, automation and artificial intelligence (RAAI), 21 October 2016.
30. For a complete overview, see Government of the United Kingdom, AI Sector Deal, 21 May 2019.
31. CIFAR is fuelling AI research and innovation. Available at: <https://www.cifar.ca/ai/pan-canadian-artificial-intelligence-strategy/>.
32. Directive on Automated Decision-Making. Government of Canada. Available at: <https://www.tbssct.gc.ca/pol/doc-eng.aspx?id=32592&section=html/>.
33. Niti aayog, National Strategy for Artificial Intelligence - #AIforall, June 2018, pp. 7-9.
34. List of Ministers, State Ministers and Parliamentary Vice-Ministers. Available at: [https://www8.cao.go.jp/cstp/english/basic/5th/basicplan\\_outline.pdf/](https://www8.cao.go.jp/cstp/english/basic/5th/basicplan_outline.pdf/).



35. Your hub for data-driven STI policy analysis and advice. Available at: <https://stip.oecd.org/stip/policyinitiatives/2017/%2Fdata%2FpolicyInitiatives%2F16993/>.
36. Joint research centre. Artificial Intelligence-A European Perspective, cit., p. 29.
37. For an overview of the different UAE's programs. Available at: <https://ai.gov.ae/about-us/>.
38. Narziev, Otabek. "The Perspectives Of The Establishment Of International Financial Centers In Uzbekistan And The Implementation Of English Law." Turkish Journal of Computer and Mathematics Education (TURCOMAT) 12.4 (2021): 1104-1108.
39. ТУРДИАЛИЕВ, Муҳаммад Али. "ЭРКИН ИҚТИСОДИЙ ЗОНАЛАР ДОИРАСИДА ИНГЛИЗ ХУҚУҚИНИ ЖОРИЙ ЭТИШНИНГ ХОРИЖ ВА МИЛЛИЙ ТАЖРИБАСИ." ЮРИСТ АХБОРОТНОМАСИ 1.6 (2020): 151-158.
40. Said, Gulyamov, and Rustambekov Islambek. "RECOMMENDATIONS ON THE PREPARATION AND PUBLICATION OF SCIENTIFIC ARTICLES IN INTERNATIONAL PEER REVIEWED JOURNALS." Review of law sciences 4 (2020).
41. Gulyamov, S. S., Rustambekov, I., & Bozarov, S. S. (2020). LEGAL BASES FOR BUSINESS ACTIVITIES IN FREE (SPECIAL) ECONOMIC ZONES OF THE REPUBLIC OF UZBEKISTAN. PalArch's Journal of Archaeology of Egypt/Egyptology, 17(10), 1884-1895.
42. Gulyamov, S. (2021). The Institutional and Legal Framework of Emerging Capital Markets: The Experience of CIS Countries. Turkish Journal of Computer and Mathematics Education (TURCOMAT), 12(4), 1117-1131.
43. Инамджанова, Э. (2021). НЕКОТОРЫЕ ВОПРОСЫ ПРАВОВОГО ЗНАЧЕНИЯ КОДЕКСА ПОВЕДЕНИЯ ДЛЯ АРБИТРОВ МЕЖДУНАРОДНОГО ИНВЕСТИЦИОННОГО АРБИТРАЖА. In Актуальные проблемы юриспруденции (pp. 45-52).
44. Imamalieva, Diyora. "Recent Challenges of Big Data Application in Healthcare System." International Conference on Multidimensional Research and Innovative Technological Analyses. 2022.
45. Bozarov, S. S. (2018). Prospects for the innovative development of free economic zones in the Republic of Uzbekistan. Review of law sciences, 2(1), 23. Akramov, A., Mirzaraimov, B., Akhtamova, Y., & Turdaliyev, M. A. (2020). Prospects For The Development Of Trust Management In Uzbekistan. Psychology and Education Journal, 57(8), 530-535.
47. Akramov, A., Mirzaraimov, B., & Akhtamova, Y. (2020). Foreign experience related to the legislation and practice of trust management of property in business activities. Збірник наукових праць ЛОГОС, 12-14.