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The role of artificial intelligence in modern times

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Abstract: This article provides a scientifically based analysis of the role of artificial intelligence (AI) technologies in the modern era, their practical application in various fields, and their social significance. The study reveals the transformative impact of AI in such fields as economics, statistics, public administration, education, and medicine, and shows its ability to increase efficiency, automate digital management and data analysis, and improve the quality of personalized education and medical diagnostics. It also discusses the social and ethical issues arising from the development of AI, in particular, the automation of professions, the growth of qualification requirements, and issues of data confidentiality and responsibility. According to the results of the study, AI is the main tool for global economic and social transformation today, and in the future it will become a leading technology that determines new areas and directions of innovative development.

Keywords: Artificial intelligence, digital transformation, economic efficiency, data analytics, automation, personalized learning, medical diagnostics, public administration, ethical issues, data security.

Introduction. In recent years, Artificial Intelligence (AI) technologies have been developing rapidly on a global scale. This development represents a fundamental turning point not only for computer science and information technology, but also for many other fields, such as economics, medicine, education, statistics, and social management. The widespread application of AI allows for automated data analysis, optimization of complex processes, and effective use of human resources. Accordingly, it is important to analyze the place of AI in modern society, its advantages, and problems on a scientific basis.

The following main part provides examples of research on the role of artificial intelligence in areas such as economics, statistics, education, medicine, and public administration.

Artificial intelligence is a significant factor in the growth of the global economy. For example, according to data, AI can make a significant positive contribution to the global economy by 2030 - it is expected that AI will increase economic efficiency and create new business models. [1]

SI technologies allow for the automation of business processes, optimization of logistics and supply chains, and improvement of marketing and customer service.

This increases the efficiency of enterprises and leads to the economical use of resources.

In addition, SI supports the digital transformation of the economy - that is, it stimulates the transition from traditional production and management methods to digital, analytical and automated systems. [2]

Thus, SI is emerging as a critical technological infrastructure for economic competitiveness, innovation, and resource efficiency at the global and national levels.

Traditional statistical and data collection systems are often slow, labor-intensive, and human-dependent processes.

SI, on the other hand, allows for the automation of data collection, processing and analysis processes, and the processing of large volumes of data in real time.

This, in turn, allows states and organizations to make quick, informed and accurate decisions, increasing the accuracy and reliability of statistical data.

In this way, SI serves as a catalyst for digital transformation in public administration, social sectors and statistical systems.

AI in education — personalized and adaptive learning

The possibilities and potential of artificial intelligence in the education system are great. With the help of AI, it is possible to personalize educational processes, form a curriculum tailored to the individual needs of students, automate assessment and analysis.

This approach not only increases learning efficiency, but also reduces the burden on teachers and helps them focus on strategic pedagogical work rather than tutoring.

In addition, SI plays an important role in the development of distance learning, online resources and interactive learning platforms as part of the digital transformation in education.

Thus, SI is a strategic tool that increases individual approach, flexibility and efficiency in education.

AI applications in medicine and healthcare

Artificial intelligence is widely used in the medical field in diagnostics, disease detection, data analysis, medical records, and drug analysis processes.

AI algorithms can analyze large amounts of clinical data, predict diseases, develop individual treatment plans, and improve the efficiency of healthcare systems.

In addition, AI accelerates research in medicine and healthcare: genetic research, drug development, epidemiology, medical image analysis, and makes medical services more accessible and affordable.

Thus, AI is becoming an important tool in the development of healthcare, the quality of medical services, and scientific medical research.

Along with the widespread application of artificial intelligence, social and ethical problems also arise. For example, automation in the labor market can lead to the disappearance of traditional professions.

This, in turn, increases the risk of changing skill requirements, the need for reskilling, and social inequality.

In addition, there are risks such as confidentiality of information collected through IS, invasion of privacy, and misuse of information.

Also, when IS is used in decision-making, it is important to maintain responsibility, fairness, transparency, and human aspects. If IS systems are poorly designed or ethical aspects are not taken into account, this can lead to social injustice and dissatisfaction in society.

Therefore, legislation, ethical standards, and policies ensuring information security, as well as international cooperation, are necessary in the use of IS technologies.

Conclusion. In today's world, artificial intelligence is not only a technological breakthrough, but also a central tool for economic, social and cultural transformation. AI has created vast opportunities such as increasing efficiency in the economy, introducing digital transformation in business and public administration, accuracy and speed in statistics and information systems, an individual approach and flexibility in education, and improving the quality of diagnostics and medical services in medicine.

However, the negative aspects of the widespread use of AI - changes in the labor market, increased skill requirements, social inequality, ethical and information security issues - should not be ignored. Therefore, a balanced approach to integrating AI into society, the development of legislative and ethical standards, improving the skills of citizens and developing information literacy are necessary.

In the future, the role of artificial intelligence will increase even more - it is expected to not only optimize existing industries, but also become an important tool in the formation of new industries, promising business areas and global social initiatives.

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