

THE ROLE AND PROSPECTS OF ARTIFICIAL INTELLIGENCE IN THE ERA OF COMPUTER SCIENCE AND DIGITAL TECHNOLOGY

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Abstract

The rise of the field of Informatics and the rapid development of digital technologies in the present time directly and indirectly affect all aspects of human life. Along with the development of Information Technology, the concept of artificial intelligence began to develop on a large scale. Artificial intelligence is important in the manifestation of certain functions of human thought with the help of machines and programs. Today, the formation of a knowledge society, the widespread use of modern digital technologies and “smart” systems in our lives shows how relevant artificial intelligence is.

Keywords: Artificial intelligence, digital technology, Informatics, knowledge, society, education, monitoring, automation.

Introduction

The main goal of artificial intelligence is to increase the productivity and quality of work by strengthening the results of human activities, and sometimes by handing them over to full — fledged machines. Along with scientific and technical progress, the penetration of modern technologies into each sphere, in particular, solutions of artificial intelligence, is observed. It is developing new digital opportunities in medicine, education, finance, manufacturing, transportation, ecology and more. Artificial intelligence has become an important tool in the development of modern society. As a result of these processes, new fields, modern professions and working methods have appeared, and most importantly, human life has entered a new level of quality. By the time of the market economy and high digital technologies, the volume of data processing has increased significantly. Through artificial intelligence technologies, it became possible to quickly, perfectly and accurately control complex processes. Knowledge, experiments, algorithms, and software processing systems have been developed. These technologies, in turn, make it possible to optimize management, information exchange, analysis, monitoring, design and many other processes. First of all, the knowledge bases, expert systems, machine learning directions and algorithms for working in a natural language, which form the basis of artificial intelligence, were formed as a result of long years of scientific research. Comprehensive strategies are being developed aimed at developing these processes both globally and in our country.[1]



Large-scale analytical work can be carried out in a short time using algorithms and programs developed on the basis of artificial intelligence. As a result of technological advances, it became possible to replicate human intelligence and creative thinking in software variants and develop them again. This increased the level of ownership and efficient use of information resources. Artificial intelligence technologies can be based on special hardware or only software. In many modern environments, these technologies are reflected in the areas of cloud computing, big data analysis, automation and monitoring. With the help of artificial intelligence, technical means are getting the opportunity to self - control, adapt to the external environment, master new knowledge, independently make decisions. As a result of the progress in the information field, the flow of information in various spheres of society's life is sharply increasing. Usually, a person has difficulty independently analyzing each flow of information and finding an appropriate solution for it. It is at this time that the use of artificial intelligence technologies serves to facilitate many things. The support of artificial intelligence systems is used to collect, sort, analyze data, draw correct conclusions from them, prepare automatic reports.[2]

With the help of artificial intelligence technologies, new opportunities that arise in the process of development provide a solid scientific and technological foundation for the development of society. High-quality technologies for storing and processing data are constantly improving. At the same time, new modern issues and new types and directions of artificial intelligence for solving them are emerging in Informatics. With these technologies, security, data protection, security of technological services, as well as the digitization of information sources and their effective management are expanding in the life of society. Digital technology and artificial intelligence are also creating wide opportunities in modern social relations. The integration of information and communication technologies into all spheres of human life and activity is further accelerating the pace of development of society. Productivity increased significantly as a result of automation of survey, design, management and analysis phases in the workplace using artificial intelligence technologies. Decision-making processes have accelerated, the impact of the human factor has slightly decreased, there is a positive effect on the effectiveness of labor resources.[3]

Currently, in the process of developing and implementing artificial intelligence, important strategic programs are being developed at the International and national level. These programs serve to increase the economic potential of countries, develop new modern areas and strengthen scientific potential. At the same time, artificial intelligence technologies are required to be open, appropriate and interactive for each layer of society, as well as meet Information Protection and ethical standards. The established role and place of artificial intelligence in the life of society is expanding every day, which determines new stages of development in the world. The digitization of all processes makes it possible to solve many advanced issues, both analytically and practically. With the help of artificial intelligence technologies, public life, social services, health, education, management, business and other fronts are using high-quality new projects. The processes of independent identification, sorting, and analysis of information using programs and algorithms are being improved, and scientific research is becoming more intense. The field of modern technology is constantly evolving and discovering many growth points.[4]



Artificial intelligence allows you to quickly and efficiently assimilate new information, such as human thinking, improve, generate systematic thoughts, find solutions adapted to modern problems. Today's artificial intelligence algorithms and programs serve to perfectly solve advanced technological issues. As a result of the development of digital technologies, new scientific and practical intellectual systems are being created. These technologies serve as a solid basis for further innovative development. In recent years, the development of various areas of artificial intelligence, including deep learning (deep learning), natural language processing, vision and Hearing Technologies, and modern analytical platforms, has also become relevant. As a result of the modern integration of compositis and mental systems, artificial intelligence technologies are being widely introduced. With these technologies, new opportunities are being opened in modern production, management, data analysis, finance, logistics and other areas. As a result of continuous digitization, the role of artificial intelligence in almost all areas of our life is gaining momentum. Artificial intelligence technologies are becoming an indispensable tool in the strategic management of the development of society on the basis of powerful information bases, rapid analysis and monitoring, modern management and management systems. This is constantly increasing the demand for artificial intelligence as the main driving force behind modern technological progress. [5]

Conclusion

In conclusion, in the era of Computer Science and digital technology, artificial intelligence is providing fundamental changes, great technological opportunities and new directions of development in all spheres of society's life. High-quality, effective and optimized processes, high-level intellectual systems have a strong positive impact on the life of society, the process of social and economic development. Artificial intelligence is one of the important requirements of modern development and will continue to maintain its importance in the near future and open up new opportunities for society. Both the expansion of freedom of information and the exchange of knowledge and the progressive advances in artificial intelligence continue to play an important role in the path of community prosperity and progress.

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