

THE IMPORTANCE OF YOUTH'S INNOVATIVE THINKING IN THE DEVELOPMENT OF ARTIFICIAL INTELLIGENCE

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Abstract

This article discusses the impact of artificial intelligence on human development today, as well as the importance and key aspects of youth's innovative thinking in the development of artificial intelligence.

Keywords: Artificial intelligence, technology, development, thinking, worldview, strategy, science, technology, innovation, project, invention, modernization.

Introduction

In today's process of globalization, groundbreaking discoveries and inventions are being created on a global scale. The term "artificial intelligence," which is a product of human intellectual thought, is exerting a profound influence on our daily activities. The rapid development of artificial intelligence across the entire world is one of the most pressing issues of our time.

Artificial intelligence, together with innovative technologies, is completely transforming our way of life. It is fundamentally affecting human life and bringing about inconceivable changes in every sphere of society. Recognizing the great importance and potential of artificial intelligence technologies, special attention must be paid to their further development.

In an era of rapid technological progress, artificial intelligence is the primary factor driving development across various sectors of life. It is particularly worth emphasizing that these technologies possess the enormous potential to deliver tremendous benefits — from increasing productivity and efficiency to achieving breakthroughs in science and innovation.

Literature Review



In our country, a number of decisions have been adopted and implemented in this area. In particular, the Resolution of the President of the Republic of Uzbekistan dated October 14, 2024, No. PQ-358, "On Approving the Strategy for the Development of Artificial Intelligence Technologies up to 2030," was developed with the aim of creating the necessary conditions for the introduction of artificial intelligence technologies in social and economic sectors — including establishing the legal, technological, and economic foundations.

This resolution provides the following definitions of the concept of artificial intelligence: artificial intelligence — a set of technological solutions that make it possible to imitate human knowledge and skills (including independent learning and the search for solutions) and to obtain results comparable to those of human intellectual activity in performing specific tasks; artificial intelligence technology — technologies based on the use of artificial intelligence, including intelligent video analysis, speech recognition and synthesis, and advanced methods of intelligent decision support [1]. In turn, the introduction of artificial intelligence into the educational process and science requires enhancing the potential of young people and developing their innovative thinking.

This is because it is precisely young people with modern knowledge and a contemporary worldview who serve as the primary driving force behind the development of artificial intelligence in all spheres. One of the most important tasks of today is to create, implement, and put into practice a suitable and effective system for developing youth's innovative thinking on the basis of artificial intelligence technologies — one that fosters the development of innovative models, products, and methods of service delivery.

Artificial intelligence technologies represent one of the most promising directions for developing youth's innovative thinking. Youth's innovative thinking is the capacity of the younger generation to think in new ways, to approach existing problems unconventionally, to propose creative solutions, and to participate actively in scientific and technological progress. This form of thinking is of critical importance in today's digital age — particularly in the fields of artificial intelligence, information technology, bioengineering, startups, and social innovation [2].

From this perspective, the introduction of artificial intelligence technology to develop innovative thinking among youth gives rise to the following capabilities:

- ensuring transparency;
- preventing fraud;
- analyzing data;
- working with large volumes of data.

In general, the development of artificial intelligence evolves as a result of advances in science and technology. Twenty years ago, a person walking down the street with a simple push-button phone would have attracted everyone's attention; today, that same phone has evolved into a smartphone with a modern appearance and capabilities. Through it, we can watch movies, do our grocery shopping, monitor our children's school life, read, communicate, and perform a great many other tasks. Artificial intelligence (Artificial Intelligence in English) is the ability of computer systems to perform creative and intellectual activities that were previously exclusive to humans. It combines extremely complex new fields of science — including neural



networks, machine learning, natural language processing, cognitive computing, and computer vision [3].

Research Object and Methods Applied

In our country, artificial intelligence is also intensively establishing itself in the field of education. Artificial intelligence plays a major role in creating information systems capable of learning, analyzing, transforming, and visualizing data. These systems help perform tasks such as acquiring knowledge during the learning process, searching for data for specific purposes, analyzing data, and displaying results. Compared to natural and human capabilities, artificial intelligence delivers more effective outcomes in the field of education.

Artificial intelligence is the ability of computer systems or robots to perform the intellectual capabilities of humans — such as learning, reasoning, decision-making, logical analysis, and the recognition of images and speech. In other words, artificial intelligence is the technology that enables computers and other electronic systems to function in a manner similar to human intelligence and thinking [4]. The primary goal of artificial intelligence is to teach systems, computers, or robots to perform human intellectual activities — such as solving problems, learning, logical reasoning, and making decisions.

The following aspects of youth's innovative thinking play an important role in the development of artificial intelligence:

1. Drive for novelty. By nature, young people are open to experimentation and to learning new technologies.
2. Creative approach to problems. They are capable of thinking outside the boundaries of existing systems and creating new approaches.
3. Technological literacy. Modern youth quickly master digital technologies, gaining the opportunity to implement new kinds of projects.
4. Openness to collaboration. Teamwork, the exchange of ideas, and networking play an important role in innovative thinking — competencies that young people possess.
5. Readiness to take risks. Innovation always requires risk. Young people are more prepared to accept that risk and to learn from failure.

Results Obtained and Their Analysis

The modern worldview of young people and the degree to which their innovative thinking has developed play an important role in the development of artificial intelligence. This in turn raises the question of what must be done to develop youth's innovative thinking. Attention must be paid to the following conditions and circumstances necessary for the development of youth's innovative thinking:

- Creativity in the educational system;
- Emphasis on critical thinking;
- Creating opportunities for technoparks, incubators, and startups;
- Supporting grants, competitions, and scientific projects;
- Integrating science, industry, and education.



Today, the following main directions of artificial intelligence significantly influence the development of youth's innovative thinking:

1. Machine learning — the ability of systems to learn from their own experience and improve their performance. Using machine learning algorithms, computers learn new knowledge based on data and make decisions.
2. Natural language understanding — the ability of artificial intelligence systems to communicate with humans in natural language; for example, analyzing text, recognizing speech, and performing automatic translation.
3. Computer vision — the ability of systems to understand and analyze images and videos; for example, facial recognition, object detection, and automatic caption generation.
4. Planning and decision-making — artificial intelligence systems use complex planning and optimization algorithms to make the most optimal decisions in various situations. Automated systems and autonomous vehicles, for instance, operate in this direction.
5. Expert systems — narrow artificial intelligence systems that provide the ability to make decisions at an expert level in a specific domain [5].

Artificial intelligence is one of the central directions of today's technological progress, and its successful development depends to a large extent on the innovative thinking of young people — that is, their ability to think in new ways, to find creative solutions to problems, and to put forward new ideas.

The main significance of youth's innovative thinking in the development of artificial intelligence is outlined below:

A source of new ideas. Young people often possess a mode of thinking that is free from traditional boundaries, which makes the ideas they put forward genuinely innovative. In the field of artificial intelligence, new approaches, new algorithms, and unconventional solutions are of particular importance.

The ability to learn and adapt quickly. Young people master new technologies rapidly. Against the backdrop of rapid change in the field of artificial intelligence, this ability plays an important role in creating, modeling, and testing artificial intelligence programs.

Startups and innovative projects. Many successful artificial intelligence startups have been launched by young entrepreneurs. They frequently achieve great results with limited resources. Innovative thinking drives them to identify market needs and create appropriate products.

Social responsibility and ethics. Understanding among young people of the ethical dimensions of artificial intelligence, social justice, and human rights is steadily growing. Through innovative thinking, they contribute to the development of artificial intelligence not only technically, but also from a moral perspective.

Participation in education and scientific research. Scientific research on artificial intelligence in universities, technoparks, and incubators is primarily conducted by young scholars. They advance fundamental and applied research in the field and bring new developments to the discipline.

The importance of youth's innovative thinking in the development of artificial intelligence is immense. Young people play a central role in the creation of modern technologies and



innovations, as they are open to new developments and ready to discover new approaches. This, in turn, directly influences the advancement of artificial intelligence.

Young people's interest in technology. Young people approach modern technologies — and artificial intelligence in particular — with great enthusiasm. Their interest in technology and their eagerness to learn it bring new ways of thinking essential for creating new solutions and constructs in the field of artificial intelligence.

Innovative thinking and creativity. Young people are often distinguished by new ideas and creative approaches. In developing artificial intelligence, innovative thinking occupies a special place in elaborating new methodologies, algorithms, and systems. Young people are able to rapidly assimilate new developments and put them to use, which helps advance artificial intelligence further.

Collaborative thinking. Among young people, there is a strong interest in cooperation and teamwork. This helps accelerate scientific research and development in the field of artificial intelligence. In team-based work, each individual's innovative approach is of great importance in achieving the common goal.

Application in other fields. Young people consider the possibilities of applying artificial intelligence not only in the technology sector, but also in medicine, education, industry, and other fields. This leads to the development of new ideas and advanced solutions and further broadens the application of artificial intelligence across various sectors.

A solid knowledge base and learning system. Young people are motivated to acquire advanced knowledge and master new technologies. Through their interest in new knowledge and their innovative thinking, they contribute to the development of artificial intelligence.

Conclusion

The innovative thinking of young people is important not only for achieving technological advances, but also for solving social and economic problems. They exert a strong influence on developing artificial intelligence in a way that is both beneficial and safe for humanity. The innovative thinking of young people plays an important role in the development of artificial intelligence. They not only master modern technologies — they possess the power to reshape them in new forms. For this reason, supporting the younger generation, creating opportunities for them, and developing an innovative environment are critically important for the future of the field of artificial intelligence.

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