

Artificial Intelligence Today And In The Future

Ismoyilov Diyorbek Bektemir og'li

Lecturer of the Department of Technological Education, Navoi State University, Uzbekistan

Fayzillayeva Oykhon Qodir qizi

Student of the Department of Technological Education, Navoi State University, Uzbekistan

Esanova Dilsinoy Dilmurod qizi

Student of the Department of Technological Education, Navoi State University, Uzbekistan

Article Received: 05/12/2025, Article Revised: 25/12/2025, Article Accepted: 10/01/2026, Article Published: 23/01/2026

DOI: <https://doi.org/10.55640/ijnget-v03i01-02>

© 2026 Authors retain the copyright of their manuscripts, and all Open Access articles are disseminated under the terms of the [Creative Commons Attribution License 4.0 \(CC-BY\)](#), which licenses unrestricted use, distribution, and reproduction in any medium, provided that the original work is appropriately cited.

ABSTRACT

This article provides a general overview of the current state of artificial intelligence (AI) and its future development prospects. Today, AI is effectively applied in various fields, including medicine, education, transport, industry, and everyday life. At the same time, the rapid development of AI technologies brings not only new opportunities but also ethical, social, and economic challenges.

In the future, AI is expected to automate many areas of human activity, expand human capabilities, and create new types of services. The article analyzes the role of artificial intelligence in society, its advantages and potential risks, and highlights future development prospects.

Artificial Intelligence (AI) is a scientific and technological field that enables computer systems and software to imitate human intellectual activities such as learning, reasoning, problem-solving, and decision-making.

AI systems can analyze large volumes of data, identify patterns, solve problems, and interact with humans in a natural manner. Currently, AI is widely used in medicine, transport, education, finance, industry, and various aspects of daily life. The main types of AI include machine learning, deep learning, natural language processing (NLP), and computer vision. While AI technologies make human life easier, they also raise ethical, social, and security concerns.

KEYWORDS

AI technologies, computers, processors, artificial intelligence, ideas, practical examples, robotics, autonomous transport, ChatGPT, DALL·E, MidJourney, Deepfake technologies. The following is a list of the most commonly used AI technologies.

INTRODUCTION

Artificial Intelligence (AI) is the ability of computer systems to perform tasks characteristic of human intelligence. These tasks include learning, logical reasoning, image and speech recognition, and decision-making. Today, artificial intelligence is becoming an integral part of almost all areas of human life.

History of Artificial Intelligence Development

The concept of artificial intelligence first emerged in the mid-20th century. The Dartmouth Conference held in the

United States in 1956 laid the foundation for AI as a scientific discipline. In the early years, scientists attempted to model human thinking processes. During the 1960s–1970s, expert systems were developed; however, due to limited computing power, progress slowed.

From the 1990s onward, the advancement of computer technologies and the emergence of the Internet opened new opportunities for AI. In the 21st century, big data, cloud technologies, and powerful graphics processing units (GPUs) have driven the rapid development of

artificial intelligence. Today, AI has reached the level of complex systems capable of making independent decisions.

Types of Artificial Intelligence

Based on capabilities, artificial intelligence is classified into the following types:

1. Narrow (weak) artificial intelligence — systems designed to perform a single specific task (e.g., translation software).

2. General artificial intelligence — systems capable of thinking and performing various tasks like humans (currently theoretical).

3. Strong artificial intelligence — artificial systems that may equal or surpass human intelligence.

Artificial Intelligence and Society

Artificial intelligence has a significant impact on society. It increases labor productivity, reduces human errors, and helps solve complex problems efficiently. At the same time, the disappearance of some professions and the emergence of new ones require adaptability and continuous learning from society.

AI is becoming the main driving force of the digital economy. Many countries are developing national AI strategies and investing heavily in this field, which intensifies technological competition and promotes innovative development.

Artificial Intelligence and Education

In education, artificial intelligence enables the personalization of the learning process. Intelligent learning platforms analyze students' knowledge levels and provide customized tasks and recommendations. Additionally, AI assists teachers in assessment, analysis, and planning processes.

Artificial Intelligence and Medicine

In medicine, artificial intelligence plays a crucial role in early disease detection. By analyzing X-ray, MRI, and CT images, AI assists doctors in making accurate diagnoses. It is also widely used in drug development and personalized treatment methods.

For example, in some countries, AI-based systems have demonstrated higher accuracy than human doctors in detecting breast cancer. Moreover, during the pandemic, AI played an important role in predicting virus spread and optimizing the allocation of medical resources.

Practical Applications of Artificial Intelligence

There are numerous examples of AI applications in everyday life:

1. Voice assistants (e.g., Siri, Google Assistant) understand user commands and answer questions.
2. Social media platforms recommend content based on user interests.
3. E-commerce platforms suggest products based on previous customer choices.
4. Autonomous vehicles can move independently while obeying traffic rules.

These examples demonstrate that artificial intelligence plays an important role not only theoretically but also practically in modern life.

Development of Artificial Intelligence in Uzbekistan

In recent years, Uzbekistan has been paying special attention to the development of artificial intelligence. The government has developed strategies for the digital economy and AI, expanding scientific research, startup projects, and international cooperation in this field.

The Government of Uzbekistan plans to develop AI in the following areas:

1. **Education:** intelligent learning platforms, electronic libraries, virtual laboratories.
2. **Healthcare:** early disease detection systems, telemedicine, AI assistants for doctors.
3. **Economy and industry:** production automation, logistics, and financial analysis systems.
4. **Public administration:** e-government systems, data analysis, and resource optimization.

Additionally, scientific centers for AI are being established in Uzbekistan, and specialists are being trained, which will play an important role in the country's future technological development.

AI Technologies, New Technologies, and Applications

Autonomous Transport

AI algorithms enable autonomous cars, drones, and ships to operate safely and efficiently. AI analyzes data from cameras and sensors to assess road conditions and make decisions.

Example: Tesla and Waymo autonomous vehicles.

Healthcare and Medicine

AI is used to diagnose diseases, recommend treatment methods, and analyze genetic data. In addition, robotic surgeons perform complex operations.

Example: IBM Watson Health, robotic surgery systems (da Vinci Surgical System).

Financial Technologies (FinTech)

Banks and financial companies use AI to detect fraud, assess credit risk, and forecast market trends.

Example: AI-based credit scoring and automated investment services.

Smart Cities and Internet of Things (IoT)

AI helps manage cities efficiently by optimizing transport systems, reducing energy consumption, and enhancing security. When IoT devices work together with AI, they become self-learning systems.

Example: smart traffic lights and energy management systems.

Robotics and Manufacturing

AI-powered robots are used in production processes and logistics systems. They assist in assembling complex machinery, quality control, and inventory management.

Example: automated robots in Amazon warehouses.

AI-Generated Content

AI can automatically generate text, images, videos, and music. This field is known as generative AI.

Example: ChatGPT, DALL·E, MidJourney, deepfake technologies.

Education and Personalized Learning

AI creates individualized learning programs for students, assesses knowledge levels, and provides recommendations. Virtual teachers and tutors make the learning process more interactive.

Infographic Structure (Sections)

New Technologies and AI Applications

1. What AI is and how it works (brief explanation)
2. Growth of AI in recent years

AI Application Areas (with graphics)

1. Healthcare: diagnostics, medical image analysis

2. Transport: autonomous vehicles, traffic optimization

3. Education: personalized learning systems

4. Financial services: fraud detection, investment recommendations

5. Manufacturing: automated factories, robots

6. Energy: resource optimization, energy efficiency

AI Technologies (with icons)

1. Machine Learning (ML)
2. Natural Language Processing (NLP)
3. Computer Vision (CV)
4. Robotics

Advantages and Challenges

1. Advantages: efficiency, speed, error reduction
2. Challenges: privacy, ethical issues, changes in employment

Future Prospects

In the future, artificial intelligence is expected to evolve into more intelligent and autonomous systems. Autonomous transport, smart cities, and personalized medical treatment systems are among the anticipated developments. However, maintaining ethical standards and human control during AI development is of great importance.

CONCLUSION

Artificial intelligence is one of the most significant technological achievements of the 21st century, deeply penetrating almost all areas of social development. Today, AI helps solve complex problems in a short time, reduces human error, and creates new innovative opportunities. Education is becoming more personalized, early disease detection in medicine is expanding, and efficiency in industry and the economy is significantly increasing.

At the same time, the rapid development of artificial intelligence places important responsibilities on society. Adhering to ethical standards, ensuring data privacy, and maintaining a balance between humans and AI are among the most pressing issues. If AI is developed rationally, under control, and with human interests as a priority, it will undoubtedly become a key factor in human well-being and sustainable development.

Based on the above, it can be concluded that artificial intelligence is not only a technological innovation but also a strategic tool that determines societal development.

REFERENCES

1. Kamalov I.R., Ochiltosheva D.Z., Idiboyeva S.B., Kahhorova M.E. Performance indicators and significance of a 5 kW·h mini photovoltaic station in the “sunny household”. Science and Innovation International Scientific Journal, Vol. 4, Issue 9, pp. 44–48, September 2025.
2. Russell S., Norvig P. Artificial Intelligence: A Modern Approach. Pearson Education.
3. Goodfellow I., Bengio Y., Courville A. Deep Learning. MIT Press.
4. Tegmark M. Life 3.0: Being Human in the Age of Artificial Intelligence. Knopf.
5. Open sources and scientific articles on artificial intelligence (IEEE, Springer).
6. Official documents and sources on digital technologies of the Republic of Uzbekistan.
7. Kamalov I.R., Kanatbayev S.S., Omonboyeva M.E., Mansurova Sh.M. Integration of subjects – search for new pedagogical solutions. Science and Education in the Modern World: Challenges of the 21st Century, V International Scientific and Practical Conference, Nur-Sultan, Kazakhstan, pp. 130–132.