ARTIFICIAL INTELLIGENCE AND ITS ROLE IN MODERN SOCIETY

Jalolov Tursunbek Sadriddinovich
Associate Professor, Asian International University, PhD
Maxdiyeva Manzura Muxiddinovna,
student at Asian International University

Annotation: This article analyzes the concept of artificial intelligence (AI), its stages of development, main technologies, areas of application, positive and negative impact on society, as well as its role in the future. AI is currently actively implemented in many areas, such as education, medicine, industry, finance, transport, security, and is fundamentally changing the way of life of mankind. The article is intended for students studying in the IT field, specialists engaged in AI technologies, and general readers.

Login

Throughout human history, humans have always sought to simplify their work, increase efficiency, and ensure security. In today's technological age, artificial intelligence is emerging as the most powerful tool to achieve these goals. AI is the ability of computer systems or programs to think, learn, analyze, draw conclusions, and make decisions in a way that is similar to human mental activity. It includes techniques such as machine learning, deep learning, and natural language processing.

Main part
1. The concept of artificial intelligence

Artificial intelligence is the ability of computers, programs, or machines to acquire human-like thinking, reasoning, and problem-solving abilities. AI systems are capable of adapting to their environment and making independent decisions.

2. SI development stages

- Weak AI (Narrow AI): Focused on solving only one problem (e.g. Siri, Google Assistant).
- Strong AI: AI with universality, close to human thinking (does not yet exist).
- Superintelligence: Higher intellectual level than human (theoretical).

3. SI technologies

- Machine Learning (ML): AI improves itself by learning.
- Deep Learning: Deep analysis through neural networks.
- Natural Language Processing (NLP): Understanding and processing human language.
- Computer Vision: Image and video analysis.
- Robotics: Creating intelligent robots.

4. SI programs and systems
-IBM Watson
- OpenAI GPT
-Google DeepMind
- Tesla Autopilot
- Amazon Alexa

5. Areas of application
- Medicine: Diagnosis of diseases, drug development.
- Education: Personalized learning platforms.
- Economics and Finance: Risk analysis, fraud detection.
- Transportation: Autonomous cars, logistics optimization.
- Social sphere: Chatbots, advisory systems.
- Industry: Automation of production through IoT devices.

6. Advantages
- Make decisions quickly and with precision.
- Labor automation.
- Reducing human errors.
- Accuracy and volume in analysis.
- Optimize user experience.

7. Negative effects of SI on society

- Job losses.
- Privacy and security issues.
- Issues of ethics and legal responsibility.
- Overconfidence in AI decisions.

8. Ethical and social issues

- Who controls the AI?
- In what cases do SI decisions determine a person's life?
- The dangers of deepfake technology.

9. SI and legislation

- AI regulations in the European Union and the United States.
- Personal data protection (GDPR).
- The issue of liability — who is responsible for AI mistakes?

10. Future prospects

International Conferences
Open Access | Scientific Online | Conference Proceedings

- Artificial General Intelligence (AGI).
- Digital assistants based on SI.
- Medical robots.
- Integration with quantum computers.
- Solving climate problems through AI.

Conclusion

Artificial intelligence is one of the powerful technologies that is fundamentally changing human life. Its capabilities are expanding day by day and entering new areas. However, it is important not to ignore its negative aspects and to develop it in a controlled, ethical and socially responsible way. AI is an integral part of the future.

REFERENCES:

Manzura Makhdieva, [24.06.2025 23:30]
1. Stuart Russell & Peter Norvig — Artificial Intelligence: A Modern Approach
2. OpenAI Research Papers
3. IBM Watson rasmiy hujjatlari
4. DeepMind blog
5. MIT Technology Review – AI Special Editions
6. IEEE Xplore – AI ethics maqolalari
7. Medium – Towards Data Science
8. World Economic Forum – Future of AI Reports
9. Google AI Blog
10. Harvard Data Science Review