

48. ARTIFICIAL INTELLIGENCE: TYPES AND FEATURES

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Today there are many new and interesting types of artificial intelligence that are evolving in various fields. The paper describes seven main areas of AI development and the trends in the evolution of artificial intelligence.

Artificial intelligence (AI) is a computer technology that enables programs and systems to “think” and “make conclusions” like humans do. AI uses algorithms, mathematical models, and datasets to “learn” and “make decisions” based on this data.

Currently, there are many types of artificial intelligence developing in various fields.

GPT-4 is a language model developed by OpenAI, which is a continuation of previous versions (GPT-3). It is capable of generating text, answering questions, making up creative content, and performing complex tasks. Its features include improved understanding of context and deeper text generation. It also supports multitasking, allowing it to work with various styles and formats of text, as well as multiple languages.

DALL-E 2 is an image generation model based on textual descriptions. It allows users to create unique images that do not exist in reality. Its features include the ability to combine different concepts and styles in one image, high-quality images with detailed graphics, and the ability to edit existing images based on text prompts.

Midjourney is an independent research lab developing AI for image creation. It offers users the ability to generate artwork based on text prompts. Its features include a focus on artistic styles and creative visual concepts, as well as a community where users can share their creations and receive feedback.

ChatGPT is a version of GPT-4 optimised for dialogue. It is designed to communicate with users and help solve various tasks. Its features include the ability to maintain long conversations and remember context, applications in education, customer support, and creative writing, as well as the ability to integrate into applications and services via an API.

AlphaFold is a system developed by DeepMind for predicting the three-dimensional structure of proteins based on their amino acid sequences. Its features include a revolutionary approach to a problem that has long

remained unsolved in biology, significant acceleration of research processes in medicine and biotechnology, and openly available data for the scientific community.

Cohere develops language models for businesses, allowing companies to integrate AI into their processes. Its features include models that can be tailored to specific business needs, with applications in customer service automation, data analysis, and other areas.

Stability AI developed the Stable Diffusion model for image generation, which became popular due to its openness and customisation capabilities. Its features include open-source code that allows users to modify the model to meet their needs and high-quality image generation with adjustable parameters.

Bard is a chatbot from Google that uses powerful language models to interact with users. Its features include integration with search engines to provide up-to-date information, the ability to engage in dialogues, and answer questions in real-time.

These technologies continue to evolve and find applications in various fields – from medicine to art, from science to business – improving efficiency and opening up new opportunities.

Analytical reports indicate that by 2027-2030, AI could become the foundation for “smart” cities and entire ecosystems where machines and humans interact closely at all levels [1]. Quantum technologies will evolve, enhancing performance and solving problems that are inaccessible to classical computers.

In the future, the role of natural language-related technologies may grow: speech, visual imagery, and even brain signals will become familiar channels of interaction between humans and algorithms. These trends are driving increased interest in mixed reality systems and robotics, where AI will serve as an intelligent assistant. Opportunities are opening up for integrating data from multiple sources into a unified computing space.

However, scaling requires a reliable legal framework and ethical principles to ensure that businesses operate within transparent regulations. Overall, the development of AI promises not only increased productivity for businesses but also the potential to shift management paradigms. Future success will depend on how responsibly leaders approach planning, partner selection, and team training, as well as their readiness for constant changes in a rapidly evolving technological environment.

References:

1. Trends and development of artificial intelligence [Electronic resource]. – Mode of access: <https://roscongress.org/materials/trendy-i-razvitie-iskusstvennogo-intellekta-ii/>. – Date of access: 22.03.2025.