

УДК 004.8

Dmytro Shablia¹, Yuliya Bykova²

¹ student of group CST-514 NU “Zaporizhzhia Polytechnic”

² senior teacher NU “Zaporizhzhia Polytechnic”

AI AND THE HISTORY OF ITS CREATION

Artificial intelligence (AI) is a science and technology that deals with the development of systems, teaches and allows to overcome the intelligence of people in solving complex problems. AI is used in various fields and activities: in medicine, in entertainment, commerce and advertising, energy, education, and also in art. AI has become a powerful tool in solving many

problems, and in this summary we will consider how artificial intelligence has developed and what opportunities and prospects await it in the future.

In 1950, a mathematician and logician Alan Turing set out to determine whether a machine could think. The standard interpretation of this test is: “A person interacts with one computer and one person. Based on the answers to the questions, he must determine who he is talking to: a person or a computer program. The purpose of a computer program is to mislead a person into making the wrong choice”.

The concept for theory testing was pioneered in *The Logic Theorist*, a program designed to model human problem-solving skills and funded and presented at the Dartmouth Seminar on Logic and Reasoning (DSRPAI) organized by John McCarthy and Marvin Minsky in 1956. At the conference, McCarthy, along with leading researchers from various fields, presented the concept of artificial intelligence for open discussion and introduced the term he had coined. At the conference, participants nevertheless reached a consensus, agreeing that AI was an achievable technology. This event served as a catalyst for the following years, contributing to a revolution in artificial intelligence research. For the development of AI, it was necessary to create specialized programming languages that would allow working with large volumes of data and complex algorithms. One such language was LISP, developed by John McCarthy in 1958.

From 1957 to 1974, artificial intelligence flourished. Computers could store more information, became faster, cheaper, and more accessible. Machine learning algorithms also improved, and people became better at understanding which algorithm to use to solve problems. The most significant obstacle to the development of artificial intelligence was the lack of computing power: computers simply could not store enough information or did not process it quickly enough. In 1966, the first virtual interlocutor called “Eliza” was created. It became the prototype of modern chatbots and virtual assistants.

In the 1970s, the industry faced a crisis that was called the “winter of artificial intelligence”. The main reason was that scientists and engineers overestimated the capabilities of computers at that time.

In 1986, Jeffrey Ginton, together with David Rumelgart and Ronald Williams, published an important paper on the backpropagation algorithm, which became the basis for learning multilayer neural networks.

In 1995, Stuart Russell and Peter Norvig published *Artificial Intelligence: A Modern Approach*, which became one of the leading textbooks in the study of AI. In it, they study four potential goals or definitions of AI, which differentiates computer systems based on rationality and thinking versus acting.

In 1997, Deep Blue beat the world chess champion, Garry Kasparov, in a chess match (and rematch). In 2015, Baidu's Minwa supercomputer used a special deep neural network called a convolutional neural network to identify and categorize images with a higher accuracy rate than the average human.

In 2022 there was a rise in large language models, such as OpenAI's ChatGPT, that created an enormous change in performance of AI and its potential to drive enterprise value. With these new generative AI practices, deep-learning models can be pretrained on large amounts of data.

The latest AI trends point to a continuing AI renaissance. Multimodal models that can take multiple types of data as input are providing richer, more robust experiences. These models bring together computer vision image recognition and NLP speech recognition capabilities.

As for expectations for AI, it will continue to evolve at a rate that may far exceed our wildest predictions. Here are some key trends that could shape the future of AI. Machine learning plays a key role in AI, and its methods and algorithms are expected to become increasingly sophisticated and effective. Another notable trend is the increasing use of autonomous systems in areas ranging from the automotive industry to medicine. There are growing questions about the ethics of AI, as well as security and privacy in the digital world.

AI has made significant progress since its inception, beginning with the work of Alan Turing and the Dartmouth Conference in 1956. It has reached many important milestones, including expert systems, neural networks, and deep learning. Today, AI is revolutionizing industries such as healthcare, commerce, entertainment and education, but there are ethical, security and privacy concerns.