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Chesnokov Y.S.
National Aviation University, Kyiv

NEW ASPECTS OF ARTIFICIAL INTELLIGENCE DEVELOPMENT

In the early 1980's. the scientists in the field of computational theory Barr and Feigenbaum proposed the following definition of AI. Artificial intelligence is the field of computer science, which is engaged in the development of intelligent computer systems, that is, systems that have the capabilities that we traditionally associate with the human mind – understanding the language, learning, the ability to reason, solve problems, etc. Now, AI is attributed to a number of algorithms and software systems, the distinctive property of which is that they can solve some problems in the same way that a person thinking about their decision would do. The main properties of AI are the understanding of the language, training and the ability to think and act.

Since the late 1940s, research in the field of modeling the thinking process has been divided into two independent approaches: neurocybernetic and logical. The neurocybernetic approach refers to the ascending type (English Bottom-Up AI) and suggests a way of studying the biological aspect of neural networks and evolutionary computations. The logical approach refers to the descending type (English Top-Down AI) and means the creation of expert systems, knowledge bases and inference systems imitating high-level mental processes: thinking, reasoning, speech, emotions, creativity, etc.

British scientist Stephen Hawking often speaks about the development of artificial intelligence (AI) as a real reason for the possible destruction of the human race. In April 2017, Stephen Hawking, during a videoconference in Beijing, held as part of the Global Mobile Internet Conference, said: "The development of artificial intelligence can become both the most positive and the most terrible factor for mankind." We must realize the danger that it poses". As the scientist told in an interview with Wired at the end of November 2017, he fears that AI can generally replace people. According to Hawking himself, people can create too powerful artificial intelligence, which will be extremely good at achieving their goals. And if these goals do not coincide with the human, then people will have problems, the scientist believes.

The empirical test was suggested by Alan Turing in the article "Computing Machinery and Intelligence", published in 1950 in the philosophical magazine "Mind". The purpose of this test is to determine the possibility of artificial thinking, close to the human. The standard interpretation of this test is as follows: "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 task of the computer program is to mislead a person, forcing him to make the wrong choice. " All participants in the test do not see each other.

The most common approach assumes that AI will be able to display behavior that is not different from human, and in normal situations. This idea is a generalization of the approach of the Turing test, which claims that the machine will become reasonable when it is able to maintain a conversation with an ordinary person, and he will not be able to understand what he is saying with the machine (the conversation is by correspondence).

Some unusual applications of artificial intelligence:

- "Artificial Intelligence" helped Chinese scientists identify 20,000 potential suicides and provide them with psychological help, TASS reported in January 2018 with reference to Xinhua News Agency.

- In December 2017, Carlsberg announced the use of artificial intelligence, which helps the Danish company create new varieties of beer.

- Developments in the field of artificial intelligence will help radically change the judicial system, make it more fair and free of corruption schemes. This opinion was expressed in the summer of 2017 by Doctor of Technical Sciences, technical consultant Artezio Vladimir Krylov. The scientist believes that already existing AI solutions can be successfully applied in different spheres of the economy and public life. The expert points out that AI is successfully used in medicine, but in the future it can completely change the judicial system.

Scientific supervisor: Provotar T.F.,
Lecturer

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Chovgalenko E.V.
National Aviation University, Kyiv

THE MAIN CAUSES OF AIR CRASHES

1. Pilot error. Since the aircraft became more reliable, the share of accidents caused by pilot errors has increased. At the moment it is about 50%. Airplanes are complex mechanisms that require compliance with many norms. Since pilots are actively interacting with aircraft at all stages of the flight, there is a lot of possibilities that something goes wrong – from unsuccessful programming of the onboard computer to incorrect calculation of the required amount of fuel. Such errors are terrible, but it is important to remember that the pilot also remains the last hope when something goes wrong. In January 2009, the Airbus A320 collided with a flock of geese over New York. The aircraft engines failed, Captain Cesli Sallenberger estimated several options and quickly responded to the situation. Based on his considerable experience, Sallenberger decided to deploy the plane and plant it on the Hudson River. Two pilots saved over 150 people – they were the elements that techno-enthusiasts dream of replacing with computers and controllers. The share of accidents caused by pilot errors is about 50%.

2. Equipment failure. In spite of improved design and high-quality production, the equipment failures nowadays is the cause of 20% of disasters. Engines have become more reliable than half a century ago, but today from time to time there are terrible failures. In 2010, in the sky over the Indonesian island of Batham the engine of A380-842 airline Qantas exploded. Thanks to the skill of the pilots, the aircraft landed safely. At times with new technologies there are new types of malfunctions. For example, in the 1950s, airplanes with turbo-propulsion engines appeared, and with them a completely new risk – the "fatigue" of construction material, caused by excessive pressure of the supercharger.

3. Weather. About 20% of accidents occur due to adverse weather conditions. Despite the many electronic devices such as gyroscopic compasses, satellite navigation