HISTORY OF "ARTIFICIAL INTELLIGENCE" AND TECHNOLOGICAL IMPORTANCE OF "ARTIFICIAL INTELLIGENCE" IN THE DEVELOPMENT OF OUR SOCIETY

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Annotation. *In this article, you will get information about "Artificial Intelligence" which has become a hot topic today. In the article, what is artificial intelligence?, the history of "artificial intelligence", stages of development?, is there a danger of "artificial intelligence" for humanity? We will try to find answers to such questions. Currently, the task of educating the younger generation as independent-minded people is urgent. The term AI ("artificial intelligence") is often found in our daily lives and its use is developing throughout the world. The article reflects on the recent implementation of "artificial intelligence" in various networks and social infrastructures.*

Key words: *"Artificial intelligence", Intellectual property, BITO, Digital Uzbekistan, ITpark, One million programmers, Youth technology parks, Face-ID, Special mode, mental abilities, evolution, cryptographer, hacker.*

Introduction. The concept of "artificial intelligence" and research in this area – a scientific approach to creating "smart machines" – first appeared in a scientific circle founded in 1956 on the initiative of Professor John McCarthy from Stanford University (USA). This circle includes Marvin Minsky, professor emeritus of the Department of Electronics and Computer Engineering at the Massachusetts Institute of Technology (USA), a "universal problem solver" and "logical theorist", the creator of intellectual (mental) programs - cyberneticist Allen Newell and they included a doctor Carnegie Mellen (USA), famous psychologist Herbert Seyman, outstanding computer specialists Arthur Samuel, Oliver Selfridge, Manchannon and others. It was in this circle that the concept of "artificial intelligence" appeared. Before moving on to the main content of our topic, we need to define the concept of "artificial intelligence" (AI), "intelligence" in general. It seems that this concept can be explained based on a simple rule, but scientists working in different fields of science interpret this concept in different ways.

The word "intelligence" comes from the Latin word "intellectus", which means to know (to determine), to understand or to comprehend (intelligence). I will give three definitions of the word "intelligence" created by psychologists (taken from the Great Soviet Encyclopedia and Wester's American Dictionary). These concepts help define the meaning of the concept of "intelligence." Intelligence is the ability to think, rational knowledge, and so on. In general, thinking is synonymous with human mental development. Intelligence (mind) is the ability to adequately assess any (especially new) situation, adjusting one's behavior. Intelligence is the ability to understand the relationships between facts in life. This ability is necessary for developing actions leading to achieving the goal. From the concept of "intelligence" defined above, we can conclude that

intelligence belongs only to people and is a unique measure of a person's mental abilities. Psychologists created such special methods that it was possible to determine the intellectual (mental) level of a person experimentally. As a result, it was found that the average level of intelligence corresponds to the level of human physical capabilities.

If the average mental ability is taken to be 100 points, then in highly gifted people this figure can reach 150, 180 and even 200 points. American chess player, ex-world champion Robert Fischer scored 187 points, English logician John Stuart Mill, who lived in the mid-19th century, could already speak ancient Greek at the age of three, and his result reached 190 points. It should be noted that during the period of evolution, intelligence went through a period from the period of revolutionary development to the emergence of modern human intelligence. The evolutionary development of intelligence continues with the transition from this stage to a stage that is more principled and organized at an excellent level.

The first work in the field of "artificial thinking" ("artificial intelligence") began in the middle of the last century. Although certain ideas were proposed by mathematicians and philosophers of the Middle Ages, the inventor of research in this direction was the English mathematician and cryptographer Alan Turing (1912-1954).

In 1950, Alan Turing published a paper in which he raised questions about the capabilities of future machines, as well as their ability to surpass humans in intelligence. It was this scientist who later developed the procedure that bears his name: the Turing test. After the published work of this scientist, new research in the field of artificial intelligence began to appear. According to Turing, when communicating it is necessary to recognize only a machine that does not differ in thinking from a person. Around the same time that the scientist's article was published, a concept called the "Children's Machine" appeared in the world. The thought process associated with the development of artificial thinking and the creation of a machine was initially formed at the child level, and then gradually improved.

The term “artificial intelligence”, that is, “artificial thinking”, appeared later: in the summer of 1956, a conference on artificial thinking was held at Dartmouth University in the USA. It was attended by dozens of scientists such as John McCarthy (Dartmouth University), Marvin Minsky (Harvard University), Claude Shannon (Bell Laboratories), Nathaniel Rochester (IBM), Herbert Simon (Carnegie University), Trenchard Moore (Princeton University) and the topic American computer scientist John McCarthy (1927-2011), who gave a lecture on this topic, went down in history as the author of the term “Artificial Intelligence.” After this meeting, active development of machines with artificial intelligence began in this area, and military institutions played an important role. actively funded research in this direction.

Modern life has begun to pose more complex tasks for researchers. Therefore, artificial thinking developed under completely different conditions compared to the time of its emergence. The processes of globalization, the activities of criminals (hackers) in the digital network, the development of the Internet and other problems - all this has confronted scientists with the task of solving complex problems in the field of artificial thinking. Despite advances in this area in recent years (for example, the emergence of autonomous technologies), the voices of critics who do not believe in the creation of “artificial intelligence” in reality do not cease - in their opinion, it is not that important. valid program. Philosophers have not reached a consensus regarding the nature of human intelligence and its status. Many ideas related to the solution of "artificial thinking" can be found in scientific works devoted to "artificial thinking". There is also a unified concept of which car can be considered smarter in this matter.

Today, along with economic globalization, intellectual property rights and their protection also play an important role in the development of our country. Because the protection of intellectual property, in addition to improving the state’s own industry through innovation, is a unique “key” tool in the field of transfer of foreign technologies, investment and employment. Our country is taking consistent measures to improve the mechanisms for introducing innovations in

economic sectors, ensuring its competitiveness, creating conditions aimed at developing active entrepreneurship and innovation, and ensuring reliable legal protection of intellectual property.

What is “artificial intelligence”? “Artificial intelligence” means an intelligent artificial system that performs the logical and creative functions of a person. The term can also be applied to any technology that has characteristics associated with the human mind, such as learning and problem solving. The ideal characteristic of artificial intelligence is the ability to evaluate and take actions that have the best chance of achieving a specific goal. Nowadays, “artificial intelligence” consists of algorithms and software systems designed to perform various actions, and it can solve several problems that the human mind can do. Although scientists are eager to experiment with “artificial intelligence,” many people are wary of the phenomenon. Even Tesla CEO Elon Musk called it a "grave threat" to humanity and a possible source of war and unemployment.

History, stages of development of “artificial intelligence”? The development of “artificial intelligence” as a scientific direction became possible only after the creation of artificial intelligence. This happened in the 20th century. At this time, N. Wiener (1894-1964) created his main works on the new science of cybernetics. The term “artificial intelligence” was proposed in 1956 at a seminar of the same name at Stanford University (USA). The workshop is designed to develop logic problems, not calculations. After the recognition of “artificial intelligence” as an independent field of science, it quickly divided into two main areas: neurocybernetics and “black box” cybernetics. And only now is there a tendency to merge these parts into a single whole [4].

Great progress in the practical application of “artificial intelligence” occurred in the mid-70s, when, instead of searching for a universal algorithm for human thinking, modeling of the specific knowledge of expert specialists and software in which knowledge is most important began. component came up with the idea of developing tools and systems.

In the 70s, experts in the field of "artificial intelligence" tried to simulate the complex process of human thinking, looked for general methods for solving problems, and used these methods in universal programs. But the development of such programs was a very difficult task, since the wider the class of problems that one program can solve, the greater its ability to solve a specific problem.

In the 80s, the efforts of programmers were involved in the development of methods for presenting information and searching. Methods of presenting information are ways of posing problems and tasks in such a way that they can be solved. Search methods are a great way to control the progress of a solution so that it doesn't take up too much memory and time.

In the late 1980s, "artificial intelligence" specialists realized that the effectiveness of programs in solving problems depended more on the knowledge they possessed.

In the early 90s, a completely new concept was adopted. Its essence lies in the fact that in order to make a program intelligent, it is necessary to provide it with high-quality specialized knowledge in a certain subject area. Thus, artificial intelligence systems being developed must have a well-developed knowledge base. Currently, this concept is more fully developed in the design of expert systems [2].

WIPO is a specialized agency of the United Nations and a global forum for member states on issues of "intellectual property", "artificial intelligence, policy", information and cooperation services. As part of its mandate to promote invention and creativity for the economic, social and cultural development of all countries, Member States have asked WIPO to host a forum to discuss policies on intellectual property and "artificial intelligence".

Inventions related to artificial intelligence, which move from theory to practical application, were presented at the meeting "BIMT Technological Trends in 2019 - Artificial Intelligence". It was noted that there are a number of factors that have contributed to the acceleration of changes in the field of artificial intelligence. At the meeting, WIPO Director General Francis Gurry stated that

"artificial intelligence is a new digital frontier that will profoundly impact the world, changing the way we live and work," and announced that it will support innovation and creativity [3].

Is "artificial intelligence" dangerous for humanity? The debate about "artificial intelligence" has been going on for almost 50 years. Experts have not yet come to a clear conclusion. Some people think that unemployment among the population will increase as a result of its popularization and replacement of people. Another group of experts advocates a positive attitude towards artificial intelligence. Even billionaires in the IT industry express their opinions on this matter.

In particular, SpaceX founder Elon Musk is confident that artificial intelligence will destroy the entire civilization. According to Musk, "artificial intelligence is the main threat to human civilization. Artificial intelligence creates labor-related challenges. The reason is that robots do everything better than us. As a result of the pursuit of advanced technologies, companies may lose sight of the dangers that the pursuit of "artificial intelligence" brings [4].

Microsoft CEO Bill Gates will also talk about its damage. "In a few 10 years, when robots start doing most of the work, "artificial intelligence" will become so powerful that it will eventually start to scare us," I agree with Elon Musk. But I can't understand why this issue doesn't concern others," says Bill Gates.

Not surprisingly, by "others," Gates meant Facebook owner Mark Zuckerberg. Because Mark says he has a positive attitude towards "Artificial Intelligence". New technologies can always be created for good or evil. "We will see the positive result of the widespread adoption of artificial intelligence in the next 5-10 years," said Elon Musk [5].

Today, some countries have introduced the use of robotic nurses, self-driving cars and drones to provide various services. Scientists are trying to make them as human as possible. As you can see, the place of "artificial intelligence" in our lives is increasing every day. "Artificial intelligence" benefit or harm? They

give different answers to such questions. I think this debate will continue for a long time.

In recent years, our country has implemented many reforms aimed at introducing artificial intelligence technologies, their widespread use, expanding the use of digital data, and developing the industry at the level of global requirements. Efforts to develop this area are intensifying. In particular, the expanding activities of IT parks, One Million Programmers, and Yoshlar Technoparks raise great hopes for the sustainable development of this industry. Artificial intelligence development strategies have been adopted in more than 30 countries, including the USA, Germany, Japan, France, Korea and Canada. When creating robots, it is also useful to think about ways to avoid danger to humanity.

In order to expand the use of artificial intelligence technologies and improve the system for collecting, storing and processing digital data, a number of works are currently being carried out in our country to train qualified personnel in this area and support scientific projects. is being implemented in this direction.

In turn, the introduction of "artificial intelligence" into science requires an increase in the number of qualified personnel. After all, experts who are masters of their craft will become the main factor in the penetration of "artificial intelligence" into all areas. Currently, in our country, the specialty "Digital Technologies and Artificial Intelligence" in this area is included in the range of scientific and scientific-pedagogical specialties of highly qualified personnel and its passport has been created. At the Tashkent University of Information Technologies named after Muhammad al-Khorezmi and the Research Institute for the Development of Digital Technologies and Artificial Intelligence, an institute of post-secondary education has opened in the specialty "Digital Technologies and Artificial Intelligence".

A total of 28 target quotas have been allocated for basic doctoral studies and internships in the field of Artificial Intelligence. Of these, 14 admission quotas were allocated for basic doctoral studies and 14 for research trainees. In addition, 10 young scientists selected in the field of digital technologies and

“artificial intelligence” will be sent to leading foreign scientific organizations for short-term scientific internships in 2021-2022.

In support of scientific and technological research and innovative developments in the field of “artificial intelligence,” the total costs amount to $15.1 billion. 9 projects are being implemented over the period 2021-2024.

On November 24 of this year, within the framework of the International Week of Innovative Ideas “Innoweek.uz-2021”, held annually by the Ministry of Innovative Development, the international conference “Artificial Intelligence - the Basis of Technological Development” was held.

“Artificial Intelligence” is entering our lives, but it is natural to wonder what it is. Therefore, we bring to your attention some information about “artificial intelligence”.

“Artificial intelligence” is not a format or a function. In short, “artificial intelligence” is a system or technology that can imitate human behavior when performing certain tasks, gradually improving using the information received. In general, artificial intelligence is not a format or a function, but a process that involves collecting and analyzing data.

Speaking about “artificial intelligence”, it is necessary to analyze its place in business and information technology. The gradual penetration of “artificial intelligence” into these areas will ensure an increase in the number of “artificial intelligence” tools.

By “artificial intelligence,” most people understand that robots will be used in various fields. But the term “artificial intelligence” does not mean that robots will replace humans. Its main goal is to expand the limits of human abilities and capabilities. Thus, such technologies are a valuable business resource.

At first, the term "artificial intelligence" was used to perform tasks that could only be done by humans, such as customer service or playing chess. Artificial intelligence also includes an in-depth study of computer technology. But customer service, various online games and in-depth study of computer technology are a small part of artificial intelligence technologies. True, “artificial

intelligence" technologies help improve productivity by automating tasks performed by humans. However, now the scope of its application is expanding; now with the help of "artificial intelligence" it is possible to determine the character of people, the abilities of students, and an employee's views on work.

Three reasons for the widespread use of "artificial intelligence". Currently, various reasons are given for the introduction of "artificial intelligence" in the field, of which we will mention the three most important. The first is inexpensive high-performance computing resources. The second is the availability of large amounts of information for education. For an "artificial intelligence" product to make accurate predictions, it must process large amounts of data. Thanks to this factor, various tools have been created, in particular, simple and cheap means of storing and processing data, and various algorithms.

Thirdly, "artificial intelligence" products increase competitiveness. It can offer companies many tools to reduce costs and risks, increase market access and other benefits. As a result, companies that have implemented artificial intelligence will be more resistant to competition.

However, as in all areas, there are a number of difficulties in introducing this type of innovation. In particular, there is a shortage of qualified personnel and a lack of information for its implementation. This is because the more data there is, the more accurate the AI predictions will be.

Artificial intelligence technologies are under development. "Artificial intelligence" allows for infrastructure monitoring, large-scale data collection and processing, technical and medical diagnostic systems, creation of personal educational trajectories, and behavioral analysis. "Artificial intelligence" is a whole range of solutions from vacuum cleaners to space stations.

This year, research firm Gartner published a study saying that "artificial intelligence" technologies are still in their infancy and that a fully developed market is far from being established.

According to company experts, many enterprises and organizations want "artificial intelligence" to help solve industry problems. These companies want to

expand “artificial intelligence” tools to anticipate risks and manage all processes based on predictions.

Now researchers face more complex challenges. In particular, it is necessary to create new tools for developing the Internet, eliminating technological problems, and the digital economy. Also, one of the most important tasks of our scientists and researchers conducting scientific work in Uzbekistan is to provide direct assistance in the introduction of “artificial intelligence” into science.

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