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GENESIS, EVOLUTION AND SIGNIFICANCE OF ARTIFICIAL INTELLIGENCE IN SOCIAL LIFE

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Abstract. This article discusses the benefits and risks of "Artificial Intelligence" for humanity, which has become a hot topic today. The article focuses on issues such as the relationship between artificial and natural intelligence, history, stages of development, and the dangers of artificial intelligence to humanity.
Keywords: Artificial intelligence, Intellectual property, digital Uzbekistan, ITpark, One million programmers, Youth technoparks, cybernetics, information, digital technologies.

Introduction. Nowadays, alongside the financial-economic and technological globalization driving our nation's development, the protection of intellectual property rights has become one of the most pressing issues. Intellectual property protection not only boosts national industry through innovation but also serves as a unique driver for attracting foreign technology, investment, and providing employment opportunities. In our country, consistent efforts are being made to enhance mechanisms for implementing innovations in economic sectors, ensure competitiveness, promote active entrepreneurship and innovation, and establish a reliable legal framework for intellectual property protection.

Particularly significant are the measures taken in the field of artificial intelligence (AI). AI refers to intelligent artificial systems that, using technical capabilities, operate in social environments by performing logical and creative functions based on algorithms. This term applies to any technology that exhibits characteristics associated with human intelligence, such as learning, adaptation, and problem-solving. The ideal feature of AI is its ability to assess and execute actions that offer the best chance of achieving a specific goal.

Today, AI consists of algorithms and software systems designed to perform various tasks, often matching or surpassing human cognitive capabilities. While scientists are enthusiastic about experimenting with AI, many people remain cautious about its impact. Even experts in the field have identified AI as a potential "major threat" to humanity, considering it a significant factor in future conflicts and job displacement.

The development of artificial intelligence (AI) as a scientific discipline began after the invention of modern computers, specifically in the 1950s. During this time, Norbert Wiener (1894–1964) introduced foundational ideas in the field of control technologies, laying the groundwork for a new science—cybernetics. The term "artificial intelligence" was first proposed at a scientific conference held at Stanford University in the United States in 1956.

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AI quickly evolved into an independent field of study, branching into two primary directions: neurocybernetics and "black box" cybernetics. However, as the field progressed, it became necessary to integrate these two branches into a unified domain.

One of the most significant efforts to apply AI in scientific and social contexts occurred in the mid-1970s. Instead of pursuing a universal algorithm that could replicate human thinking, researchers began focusing on modeling the specific knowledge of domain experts. This approach emphasized developing software tools and systems that encapsulated expert knowledge.

Consequently, AI specialists in the 1970s aimed to model complex human cognitive processes by creating general problem-solving methods and universal software programs. However, designing such programs proved to be highly challenging. The broader the class of tasks a program was intended to handle, the more difficult it became to ensure its effectiveness for solving any specific problem.

In the last two decades of the 20th century, the focus of programmers shifted toward developing methods for information representation and search. Information representation methods are techniques used to structure knowledge gained through solving problems and tasks. Search methods, on the other hand, are strategies for efficiently navigating solution spaces without excessive memory or time consumption.

By the final decade of the 20th century, AI specialists realized that the effectiveness of technical programs in solving problems heavily depended on the knowledge possessed by humans. In recent years, this understanding has guided AI research more deeply toward knowledge-based systems.

In the last decade, particularly at the 2019 WIPO (World Intellectual Property Organization) Technology Trends on Artificial Intelligence conference, numerous AI-related inventions transitioning from theory to practice were showcased. Several factors were highlighted as having accelerated advancements in the field of AI. During the event, WIPO Director General Francis Gurry stated that "Artificial intelligence is the new digital frontier that will profoundly impact the way we live and work." He emphasized WIPO's commitment to developing a balanced and effective international intellectual property system that supports innovation and creativity for the benefit of all.

What are the potential dangers of artificial intelligence (AI) for humanity? Debates surrounding AI have continued for nearly 70 years, yet experts have still not reached a unanimous conclusion. Some believe that as AI becomes more widespread, it could eventually replace humans in many roles. Others are concerned about the growing threat of mass unemployment.

Meanwhile, another group of specialists argues that AI should be approached with a positive mindset. Even billionaires in the tech industry have voiced their opinions on the matter. For example, Elon Musk, founder of the well-known aerospace company SpaceX, has openly stated his firm belief that AI could lead to the downfall of entire galactic civilizations. According to Musk, "Artificial intelligence is the biggest risk to human civilization. It will lead to labor and unemployment issues because robots can do everything better than we can. In the race for advanced technology, companies may become so focused on AI development that they overlook its potential dangers."

Microsoft co-founder Bill Gates has also spoken about the risks associated with AI. He remarked, "A few decades from now, once robots take over most of the jobs, AI will

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become so powerful that it will start to worry us. I agree with Elon Musk on this. But I can't understand why more people aren't concerned about it."

Today, in some countries, AI-driven technologies such as robotic nurses, self-driving cars, and drones designed for various services are already in use. Scientists are even working to make these machines resemble humans as closely as possible. As we can see, AI is becoming increasingly embedded in our daily lives. The debate over whether AI will ultimately be beneficial or harmful is likely to continue for a long time.

In conclusion, recent years have seen significant reforms in Uzbekistan aimed at introducing and expanding the use of artificial intelligence (AI) technologies, increasing the use of digital data, and developing the sector to meet global standards. Efforts to advance this field are accelerating. Notable initiatives such as the growing network of IT parks, the "One Million Programmers" project, and Youth Technoparks inspire great optimism for the sector's sustainable growth.

Over 30 countries—including the United States, Germany, Japan, France, South Korea, and Canada—have adopted national AI development strategies. Similarly, Uzbekistan's "Strategy 2030" outlines clear goals and priorities for rapidly developing digital technologies and integrating them into all aspects of social life. A practical example of this integration is the expanding use of AI and expert systems within government interactive service portals, which now utilize data from both public and private institutions to deliver improved services. However, the absence of an "ethical censorship" mechanism in AI poses a potential threat, raising concerns that this technological advancement could lead to a global crisis if not properly regulated.

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