

THE POSSIBILITIES OF USING GENERATIVE AND PREDICTIVE ARTIFICIAL INTELLIGENCE, DEPENDING ON THE SECTOR OF THE ECONOMY

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Abstract: *The article systematizes knowledge about predictive and generative types of artificial intelligence, as well as provides recommendations on their use in various sectors of the economy. This goal is achieved by clarifying the concept of "Artificial intelligence" and identifying the advantages of this technology, conducting a comparative analysis of generative and predictive artificial intelligence, determining the possibilities of their use depending on the branch of the economy and developing a list of recommendations on the use of these technologies in various sectors of the economy.*

Keywords: *artificial intelligence, economic sectors, generative artificial intelligence, predictive artificial intelligence, predictive analytics/*

ВОЗМОЖНОСТИ ИСПОЛЬЗОВАНИЯ ГЕНЕРАТИВНОГО И ПРЕДИКТИВНОГО ИСКУССТВЕННОГО ИНТЕЛЛЕКТА В ЗАВИСИМОСТИ ОТ ОТРАСЛИ ЭКОНОМИКИ

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Аннотация: *в статье производится систематизация знаний о предиктивном и генеративном типе искусственного интеллекта, а также даются рекомендации по их использованию в разных отраслях экономики. Данная цель достигается за счёт уточнения понятия «Искусственный интеллект» и выявления преимуществ данной технологии, проведения сравнительного анализа генеративного и предиктивного искусственного интеллекта, определения возможностей их использования в зависимости от отрасли экономики и разработке списка рекомендаций по использованию данных технологий в различных отраслях экономики.*

Ключевые слова: *искусственный интеллект, отрасли экономики, генеративный искусственный интеллект, предиктивный искусственный интеллект, предиктивная аналитика.*

Experts around the world have always discussed what resource a particular state should have in order to ultimately surpass all others. Now, when the entire world is experiencing almost global digitalization of most spheres of human society, experts are trying to determine the very technology, the development of which at a high level will allow the economy of a particular state to take a leading position in the world. At the moment, many experts consider artificial intelligence (AI) to be such a technology, but there are also cases when even experienced specialists do not always correctly determine the possible areas of its use, since they do not know that there are several types of AI, each has its own functions and not each of them is suitable for use in a particular sector of the economy.

The purpose of this study was to systematize knowledge about the use of AI technology in various sectors of the economy and develop a list of recommendations for its use. To achieve this goal, the following tasks were set:

1. Clarify the concept of "Artificial Intelligence" and highlight the benefits for the economy from using this technology;
2. Determine the types of AI and compare them with each other;
3. Determine the possibilities of using AI depending on the sector of the economy;
4. Develop a list of recommendations for using AI depending on the sector of the economy.

First, let's define the basic concept. AI is a computer program based on algorithms for finding solutions and a neural network that can perform tasks that usually require human intervention without their direct participation [1 p. 242]. This technology is currently widely used in various areas of production and beyond, due to the following advantages: increased productivity of work performed, reduced costs and the likelihood of human errors, fast and accurate processing of large volumes of information and making forecasts taking into account all available data, convenience and ease of use [2, p.98].

When talking about the use of AI, it is necessary to understand that this concept can be understood as different types of this technology, the functionality of which also differs from each other. Chat-GPT, neural networks for creating photo, audio and video content, etc. are generative AI - a type of AI systems that work on the basis of generative models to create new data based on training examples [3, p. 7]. AI that processes large amounts of data, makes forecasts and helps make decisions based on statistical information is predictive AI (predictive analytics) - a type of system based on AI, machine learning and data analysis, used to predict various events and phenomena [4, p. 127].

To form a clearer understanding of the differences between these technologies, a comparative analysis was conducted, presented in Table 1.

Table 1. Comparative analysis of generative and predictive AI (compiled by the author based on [5]).

Comparison criterion	Generative AI	Predictive AI
Purpose	Creation of new content (text, photos, videos, audio, etc.)	Pattern Detection and Forecasting
Algorithms	Deep learning and neural networks	Statistical Algorithms and Machine Learning
Application	Works requiring a creative approach	Retail, Industrial, Logistics, Healthcare, Finance

The results of the analysis show that, due to their key features, generative and predictive intelligence have different areas of application, as they serve different purposes and are based on different tools. Consequently, the areas and methods of their use will differ depending on the economic sector: industry, agriculture, trade, construction, transport, education, culture and healthcare. An analysis of the possibilities of using the types of AI under consideration by economic sector is presented in Table 2.

Table 2. Comparative analysis of generative and predictive AI (compiled by the author).

Branch of Economy	Generative AI	Predictive AI
Industry	–	Monitoring and control of equipment condition, quality control of products.
Agriculture	–	Monitoring of soil condition, forecast of crop yield and probability of natural disasters
Trade	Advertising creation, personalization of product recommendations	Forecast of demand and consumer behavior, including taking into account seasonality
Construction	Creation of digital twins of construction projects	Analysis of possible consequences of the influence of external factors on the construction process
Transport	Creation of personalized route recommendations taking into account traffic jams and traffic	Forecast of demand, risk assessment and construction of optimal routes
Education	Creation of educational materials	Identification of problem areas of students
Culture	Creation of new art objects	–
Healthcare	–	Early diagnosis of diseases, risk assessment and personalization of treatment

Based on Table 2, it is fair to conclude that predictive analytics tools are a virtually universal tool for specialists in various sectors of the economy, while generative AI cannot be used everywhere. However, if we think about the possibilities of using these two technologies together, it is not fair to say that in the hands of experienced specialists this solution can really become a powerful tool. Based on these findings, a list of recommendations for using generative and predictive AI in various sectors of the economy was compiled:

1. Use generative AI to solve creative problems;
2. Use predictive AI to build forecast models and analyze large data sets;
3. Provide access to high-quality data and training sets for training AI models;
4. Pay attention to ethical and safety issues when using AI;
5. Maintain the ability for a specialist to control the AI's work in order to reduce the likelihood of errors.

In conclusion to all of the above, I would like to note that at present AI in general has a strong impact on the modern economy, which is why it is now important to be able to understand all the intricacies of using this technology. This technology has serious prospects for development, which means there are prospects for ensuring economic growth, due to the correct use of this technology.

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