PROSPECTS OF ARTIFICIAL INTELLIGENCE

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AI has already begun to understand the physical world. This fact opens up huge prospects. Geoffrey Hinton, professor of computer science, thinks so. (Brown, 2023) He is interested in unsupervised learning of AI. In long term the unsupervised learning will be the crucial, but humanity has to face with reality. People often are worried about shadows in different areas of AI. Therefore, there may be obstacles to the development of AI. Nevertheless, Geoffrey Hinton believes that AI has already

begun to understand the world of people, its complicated social relationships.

These statements are well founded. In recent years, neuroscience has developed a lot, and more advanced methods of AI training and their combination with deep learning are being applied. Therefore, the question of creating AI as a reliable, perfect model of the world is already being raised. The development of AI mental modelling mechanisms will allow creating a visual spatial simulation of the world. This opens up fundamentally new perspectives.

New AI capabilities were discovered quite unexpectedly. As it turned out, they have a basis for learning that was not specifically developed. It was found that an algorithmic breakthrough is not the most important component for further AI learning. This is how multimodal systems came to the fore. Perceiving the world around it through various models, such as sounds, images, gestures, etc., AI begins to learn to coordinate its actions on its own. This is why it is very interesting to experimentally study the capabilities of AI based on the principle of a small child's learning. (Wai Keen Vong et al., 2024) Representational and associative learning were applied. Using a multimodal approach, the system began to associate a visual representation with its specific concept.

Multimodal mechanisms of AI interaction with the environment open up new prospects. Robots that understand the external environment of the world are already being created. This expands the scope of their application. The concept of robotics may change dramatically. Large language models are being integrated with robots. Also, by understanding the complex interrelationships in scientific research, AI can help scientists sort the search space. However, they are not yet capable of making hypotheses and asking the right questions on their own.

Despite these achievements, scientists doubt that AI is really capable of understanding the physical world. Through their research on this issue, they tried to prove why AI systems cannot yet be endowed with human characteristics. Statistical methods were used on AI models (Grosse et al., 2023). It was found that there are certain key fragments in the AI data set that, despite the large amount of data, still have a strong impact on the output. These fragments help AI to derive the concept of

an idea. This feature can be misleading and give the impression that the AI has its own opinion. (Schaeffer et al., 2023)

The prospects of AI should be analysed comprehensively. At first glance, they are very promising, which is logical. If we consider the latest methods of AI training, such as multimodal mechanisms and deep learning, the prospects increase dramatically, opening up new opportunities and potential areas of AI implementation. It is too early to talk about the emergence of an AI mind of its own, but developers themselves do not know how the largest AI models are trained at the fundamental level. Therefore, there are certain concerns of various kinds. Currently, AI systems require fundamentally more scaling and training. In the next decade, we will see great discoveries in the field of artificial intelligence.

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