

ChatGPT – THE QUINTESSENCE OF NEURAL NETWORKS

student Andronchik D.S.

student Denisyuk N.S.

scientific supervisor – senior lecturer Vanik I.Y.

Belarusian National University of Technology

Minsk, Belarus

Neural networks are one of the most important and relevant topics in computer science today. With the help of AI, humanity is one step away from the next technological revolution. Already today, AI is beginning to actively take root into everyday life and help people around the world: prototypes of unmanned taxis are driving around the cities; many homes use devices such as smart speakers, search engines have built-in voice assistants or assistants.

However, the most popular and relevant AI-based innovation today is ChatGPT. ChatGPT is a large language model developed by OpenAI, one of the world's leading artificial intelligence research institutes. It is designed to mimic human language and communication patterns, allowing it to engage in natural language conversations with users. ChatGPT has made a significant impact in the field of natural language processing, enabling computers to understand and interpret human language with greater accuracy and efficiency [1].

The development of ChatGPT involved training it on a massive amount of data, specifically on a dataset called "Common Crawl" which is a large dataset of web pages that have been crawled and indexed by web search engines. The model was trained using deep learning techniques, specifically the transformer architecture, which has been shown to be highly effective in natural language processing tasks. ChatGPT is a generative language model, meaning that it is able to generate text based on the input it receives. It can answer questions, provide recommendations, engage in small talk, and even write stories and

poems. The model's responses are generated based on the patterns it has learned from the massive amount of training data it has been exposed to.

One of the most impressive features of ChatGPT is its ability to adapt to different domains and contexts. The model is able to understand the context of a conversation and tailor its responses accordingly. For example, if a user is asking about a particular topic, ChatGPT can provide relevant information and insights. Similarly, if a user is expressing emotions or feelings, the model can respond with empathy and understanding [1].

However, like any technology, ChatGPT has its limitations. One of the biggest challenges in natural language processing is dealing with ambiguity and understanding the nuances of human language. ChatGPT can sometimes generate responses that are irrelevant or nonsensical, and it can also exhibit biases that reflect the biases present in the training data.

In conclusion, ChatGPT is a remarkable achievement in the field of natural language processing, representing a significant step forward in enabling computers to understand and communicate with humans in a natural and intuitive way. While it has its limitations, ChatGPT has the potential to revolutionize the way we interact with each other and with the technology, paving the way for a more seamless and efficient future.

References

1. Introducing ChatGPT. [Electronic resource]. - Mode of access: https://openai.com/blog/chatgpt_4e6g1ht9/. – Date of access: 12.03.2023.