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IMPACT OF A LANGUAGE MODELS ON AN EDUCATION AND ACADEMIC SPHERE

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This work is devoted to the specification of using language models and chat-bots in scientific writing, in education, describing dangers, that it may contain, some opportunities of using language models the and social features that became clear in light of this using.

ChatGPT chat-bot, developed by OpenAI company, gained great popularity in recent months, getting more than a hundred million users just in January. This makes ChatGPT the most fast-spread program in history. ChatGPT can perform a variety of tasks: it can collect and compose the data on chosen theme, create texts on chosen theme, write a message in tone specified by a user, edit a text, changing words according to the request, it can also solve given tasks. It has already made significant impact on education sphere. Many students use ChatGPT to write essays or reports. It creates a problem in control of quality of education – people could get diplomas that are not confirmed by real knowledge, by the means of using ChatGPT.

The impact of the chatbot on the academic sphere is somewhat less. Authors of some scientific research papers have included ChatGPT in the list of authors, but recently the journal Nature has banned this practice[3]. This is because ChatGPT is only an application, so it cannot be held the responsibility for errors, plagiarism or academic dishonesty.

The scientific research goal is to find regularities and to obtain verifiable knowledge thorough the honest study of verifiable facts. ChatGPT cannot invent anything new, it only compiles the data from its database. Moreover, as a language model, simulating the ability to learn language from context, it exhibits unexpected errors and high tendency to fabricate facts. For example, when a researcher Song-Gong Kim asked the chat-bot to write an article and then generate a list of sources [1], ChatGPT, following all the rules of sourcing, sent list of four entirely fictional studies by fictional scientists.

But can it be useful?.. It is strange, but yes... All users note the extraordinary speed of a text generation, while the texts mostly remain neutral and factually correct. ChatGPT, if requested, can annotate and comment the text, collect lists of literature that are available on the chosen topic and even make a

general overview of the state of science in some field, highlighting where there are unclear or unworked points. (However, we should note that ChatGPT does not critically analyze the sources, leaving the assessment of their quality to a user.) ChatGPT can also make drafts and edit the text. So, ChatGPT is a great time-saving tool that can replace simple texting that doesn't require creativity or special professional writing skills.

However, a human specialist must check a text in final – because ChatGPT is firstly a language model, it puts writing good-looking texts above all else, and therefore even during editing it can distort some facts. The specialist who writes the article using ChatGPT must control its' actual contents, because the facts make the value of the article. Also, for the purposes of scientific integrity, it should be indicated that the article is written using language models, to let the reviewers know the source of possible errors.

ChatGPT challenges academic sphere by allowing people who don't really know the subject to get an academic degrees and produce large volumes of articles with questionable actual value. In order to preserve academic integrity and the goal of science – the search for reliable information about the world – a mechanism of control is still to be created. Firstly, more attention should be paid not to an external design, but to the actual content and originality of the articles (neural networks imitate the external qualities of the text well, but the texts created by ChatGPT show a lack of originality), so it is necessary to strengthen scientific editing to control the quality of the articles. Some researchers have proposed creating neural network that will analyze the text for ChatGPT patterns (though it will also detect factually valuable articles that were edited with ChatGPT for the means of time-saving), so professional scientific editing should remain the last resort.

ChatGPT pose the question to humanity – what to do with a large amount of easily automated "intellectual" work and whether it is needed at all and also makes us pay attention to the content, not to the form. Language models turn us to the question of the meaning of our current social (especially educational) institutions that now can be easily tricked by programs.

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