

Командный конкурс эссе
«Единство в различии»

Исследовательская работа (эссе)

Тенденции искусственного интеллекта в образовании: возможности и риски.

Замена учителей или помощь?

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Research work (essay)

Artificial Intelligence trends in education: opportunities and risks. Teacher replacement or assistance?

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Theses:

- 1. Artificial intelligence has enormous potential in education.**
- 2. Traditional education, let alone teachers, cannot be replaced by new technologies.**
- 3. Teaching is a form of creativity.**
- 4. How to write a part of an essay using artificial intelligence.**

Innovations in education

Neural networks and chatbots are gaining increasing popularity among school students and college students. Writing essays, solving problems, finding facts, analyzing large volumes of information, understanding terminology, or defending a thesis - all of this can now be done without the need to spend hours in the library or extensively search for information online. The use of new technologies simplifies the process and significantly reduces search time.

Artificial intelligence has enormous potential in education. Neural networks can analyze data, automate processes, and make predictions. This makes artificial intelligence a valuable tool for managing educational trajectories, personalizing learning, identifying problems, reducing risks, and supporting students and educators.

Generative neural networks have been actively used in the development of educational materials and virtual assistants for several years now. There are numerous examples of using AI-based services and platforms in educational systems worldwide:

- Success prediction (risk assessment) services utilize data from a student's past academic performance to forecast their future achievements, assess potential risks, and provide recommendations for improving outcomes.
- Intelligent educational materials. We are talking about a new generation of textbooks. These are digital education platforms that allow for customization of the learning process for everyone, track progress, identify knowledge gaps, and provide recommendations to educators for organizing the teaching process.
- Automated checking and assessment tools. Automatic grading of assignments and tests can significantly speed up the grading process, reduce the burden on teachers, and provide quick feedback to students.
- Virtual simulators and assistants.

Teacher replacement or assistance?

Even with the explosive growth of artificial intelligence, traditional education, let alone teachers, cannot be replaced by new technologies. Moreover, according to assessments by leading international experts in the field of artificial intelligence, the teaching profession is considered to be at the lowest risk of being replaced by artificial intelligence.

"In the English language, there is a term called 'Augmented Intelligence,' which can be more accurately translated as 'enhancing intelligence.' These are digital products that do not replace humans but aim to enhance the capabilities of specialists in specific fields, such as doctors, engineers, or architects. Most of the current AI solutions developed in education are aimed precisely at enhancing the capabilities of educators" (Ivan Karlov, 2023)

Artificial intelligence systems enable the organization of personalized learning in mass education. In a traditional classroom, teachers often structure the learning process based on students with average abilities. Strong students may find it easy and boring in such conditions, while weak students may struggle. AI-based platforms can assess the pace and complexity of learning, considering the individual characteristics of each student, and offer customized assignments both in-class and at home, catering to their needs and abilities.

Neural networks approach the assessment of student's knowledge and performance without bias. They possess the unique ability to process vast amounts of data, analyze, and evaluate the level of achievement of both school students and college students.

But! If we consider the application of artificial intelligence in preschool and school education, where a person's personality is still forming, it can be said that there is no need for AI. Children strive to imitate adults, and such a teaching format is much more effective as it teaches children to interact with their surroundings, and it is also faster and more cost-effective because developing

and training artificial intelligence will require a lot of time and financial investment.

Can artificial intelligence be emotional? (Pic.1) Being an authority figure in the eyes of a student, a teacher can push and motivate them to acquire new knowledge. The teacher's caring attitude towards the student's achievements will have a positive impact on their academic performance. Being able to generate interest in a subject and instill a love for it will make the student more engaged in the educational process and consequently improve their academic performance.

In addition, the following skills of a teacher are also important: the ability to resolve conflicts, a desire to understand students, respect, involvement in the learning process, and a sense of humor.

Artificial intelligence is incapable of acquiring these skills. Due to its nature, it cannot instantaneously and correctly respond to a student's behavior in various situations the way a human can. Characteristics such as creativity are unique to humans. The idea of creativity involves breaking new ground, whereas artificial intelligence is based on specific mathematical constraints.

In the context of our topic, teaching is a form of creativity.

Thanks to the creative approach of teachers to education, there are various educational methodologies. Teachers engage in lesson preparation and planning, selecting materials on the topic, creating, or finding tasks for group and individual work, and finding examples and comparisons to help students better understand complex material. (Pic.2)

Education is closely connected to establishing a connection between the student and the teacher. Communication is an interaction in which people play specific roles. The teacher takes on the role of a mentor. For the student, the teacher is an expert in the subject and an expert in their progress. On the other hand, innovative technologies cannot participate in social interaction and play any role.

So, will AI be able to completely replace professional educators in the future? (Pic.3) To provide artificial intelligence with full interaction with a student, it is necessary to train the neural network in skills that only humans can handle. This includes recognizing emotions, gestures, and facial expressions, interpreting them, analyzing student messages at multiple levels - including textual and vocal - and selecting appropriate reactions to them, recognizing cultural references (precedent texts, memes, quotes, and their derivatives), and the ability to use previous experience of interaction with the student. However, achieving this requires access to vast amounts of data and powerful servers. Considering the current level of technological development, it can be said that full training of artificial intelligence in "human" skills will take a considerable amount of time and is not expected to happen anytime soon.

How to write an essay with the help of AI

Our team decided to leverage modern technologies and try writing a part of the essay using artificial intelligence. This process was highly interesting and productive. We selected one of the GPT chat models, inputted the required prompt: "Write an essay on the topic 'Artificial Intelligence trends in education: opportunities and risks. Teacher replacement or assistance?'"

Here's what came out of it:

We selected one of the GPT chat models, chose a topic, and created an outline. We used artificial intelligence to generate sentences and provide prompts regarding the structure and content of the essay. We inputted the main topic and key arguments into the chat, and the artificial intelligence assisted us in composing the foundation of the essay.

We also worked with GPT chat for gathering and analyzing information related to our topic. We conducted internet research, studied academic articles, and other sources to obtain facts, quotes, and additional data that helped support our arguments.

The artificial intelligence provided us with options for phrases, sentence structures, and transitions between paragraphs. It explained and suggested appropriate expressions to reinforce our ideas. Additionally, our team used artificial intelligence tools to check spelling, grammar, and plagiarism. This helped us improve sentence structure and identify errors in our essay.

With the help of artificial intelligence, we discovered an interesting fact: Russian student Alexander Zhadan defended his thesis, which was written by ChatGPT. Instead of several days, it only took him 23 hours to complete the work. He spent 15 hours on composition and an additional 8 hours on editing. The thesis topic was "Analysis and improvement of game organization management." The work was accepted with minor revisions. The text's uniqueness was rated at 82% according to the "Anti-plagiarism" check. Thus, the student successfully defended his thesis and became a certified specialist. Interestingly, the 22-year-old now works as a project lead for neural networks at TenChat.

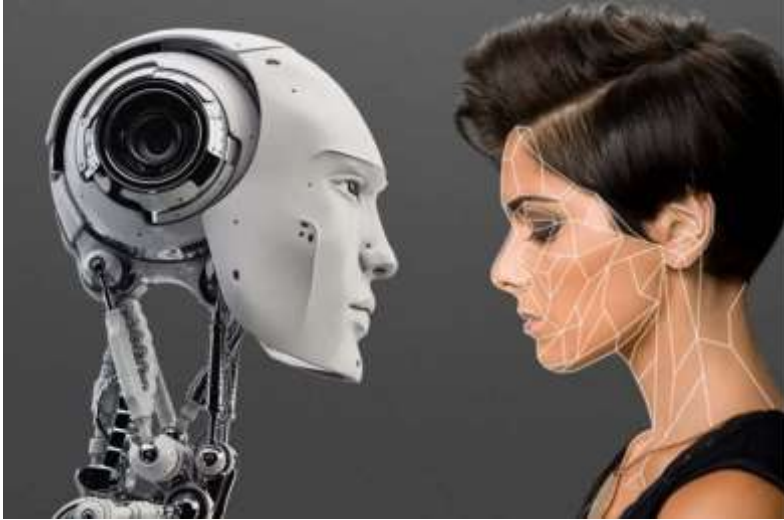
"For me, writing the thesis with the help of ChatGPT was not so much risky as it was interesting. There was motivation to understand the process, to delve into how it works. After all, it's not limited to just the legal level" (Alexander Zhadan, 2022)

Advice from our team: it is important to remember that while artificial intelligence can provide you with suggestions and assistance, the final quality of the essay still relies on your own skills and knowledge. Artificial intelligence cannot replace the individuality of your thoughts and the uniqueness of your writing. And of course, without the emotional support of our teacher, humor, ability to resolve conflicts, and skill to engage students, we would not have succeeded!

"AI will never replace great teachers, but in the hands of great teachers, it can be transformational" (Randy Ziegenfuss, 2015)

References

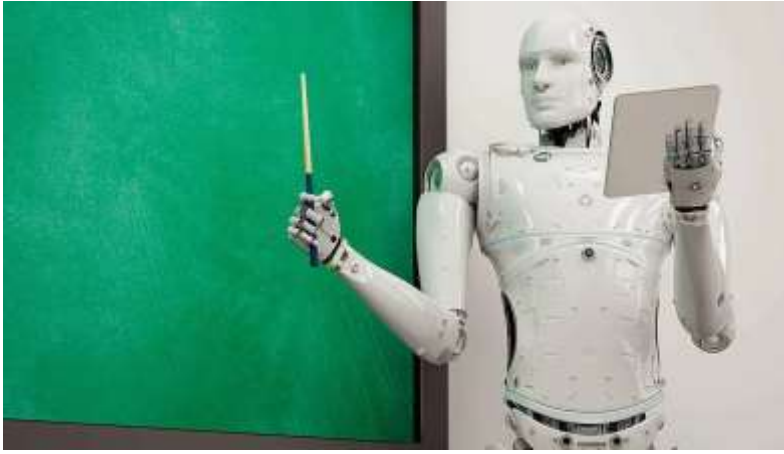
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Pic.1



Pic.2



Pic.3