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THE USE OF ARTIFICIAL INTELLIGENCE IN COMPUTER SCIENCE LESSONS

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Abstract. Observing the processes of the real world, we first describe them verbally, trying to understand the essence of phenomena, then we build mathematical models. However, we do not want to limit ourselves to building formal models, but we want to get a qualitative and quantitative idea of the processes under study, to see them on graphs.

Keywords: Numerical methods, mathematics, computer calculations, solutions, complex problems, numbers, arithmetic, geometry, formula, technical

With the development of modern technologies, education is subject to significant changes, and the introduction of artificial intelligence in computer science lessons is one of the most striking examples of this progress. The opportunities provided by the use of artificial intelligence open up new horizons for teaching students the basics of programming, algorithmic thinking and information technology in general. In this article, we will consider the advantages and potential challenges of using artificial intelligence in computer science lessons, as well as identify the most promising areas of this innovation in education.

Computer science teachers face a number of problems and challenges in their professional activities. Here are a few of the main ones:

1. Rapid development of technology: Technology is changing and developing at a tremendous rate, which requires computer science teachers to constantly update their knowledge and skills. Continuous learning and self-education are becoming key aspects of a computer science teacher's job.

2. Lack of educational resources: Not all educational institutions have sufficient educational resources, software and equipment for full-fledged teaching of computer science. This creates additional difficulties in teaching students in the field of information technology.

3. Motivation of students: Students do not always understand the importance of studying computer science and computer science, which can create problems with motivation and interest in studying this subject. Computer science teachers often face the challenge of getting students interested and showing them the practical value of knowledge in the field of IT.

4. Curriculum adaptation: Computer science teachers often have to deal with the need to adapt curricula and teaching methods to different types of students, taking into account their level of training, interests and needs.

5. Teaching new technologies: With the development of new technologies such as artificial intelligence, big data, cybersecurity, etc., computer science teachers face the challenge of introducing these topics into the curriculum, even if they themselves do not have sufficient experience working with them.

Computer science teachers are constantly working to overcome these challenges, providing students with the knowledge and skills necessary for a successful career in the field of information technology.

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Artificial intelligence finds applications in a wide variety of fields, including medicine, manufacturing, finance, education, transportation and many others. Here are some examples of its application:

1. Medicine: AI is used to analyze medical images, diagnose diseases and select individual treatment for patients. Machine learning technologies make it possible to detect diseases at early stages with high accuracy and predict possible complications.

2. Finance: In the financial sector, AI is used to analyze market data, identify financial fraud, and develop investment strategies. Machine learning algorithms make it possible to automate decision-making processes in the stock market and in the banking sector.

3. Transport: AI is used to manage transport systems, optimize routes and predict traffic flows. Autopilots using artificial intelligence technologies are becoming more common in cars, and robotic public transport management systems are improving transportation safety and efficiency.

4. Education: In the educational field, artificial intelligence is used to personalize learning, create individual curricula and automate the processes of evaluating students' knowledge. Adaptive learning technologies based on AI allow students to study according to their level of knowledge and abilities.

This is just a small list of examples of the use of artificial intelligence, and its capabilities are constantly expanding in various fields of human activity.

Artificial Intelligence (AI) has the potential to revolutionize education by making it more personalized, effective, and fun. Here are some examples of how AI can be used in computer science lessons:

• Personalization of learning: AI can be used to create personalized learning programs that meet the individual needs and interests of students. For example, an artificial intelligence tool can track the progress of students and offer them additional exercises or materials depending on their level of training.

• Automation of routine tasks: AI can be used to automate routine tasks such as checking student papers, evaluating test results, and providing feedback. This can free up time for teachers to engage with students more creatively and individually.

• Creating new ways of learning: AI can be used to create new ways of learning that are more fun and interactive. For example, an artificial intelligence tool can use virtual reality or augmented reality to help students visualize complex concepts.

Here are some specific examples of using AI in computer science lessons:

• Some schools use artificial intelligence software to check students' work. This helps teachers to check students' work faster and more effectively, which frees up time for more creative interaction with students.

• Some schools use artificial intelligence software to provide feedback to students. This helps students understand their strengths and weaknesses and improve their skills.

• Some schools use artificial intelligence software to create interactive learning materials. This helps students visualize complex concepts and understand them better.

An example of a lesson using artificial intelligence

Here is an example of a lesson that can be conducted using artificial intelligence:

Lesson topic: Artificial Intelligence in education

Lesson objectives:

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• Introduce students to artificial intelligence.

• Discuss ways to use artificial intelligence in education.

Equipment:

• Computers with Internet access

• Artificial intelligence software

The course of the lesson:

• Introduction

The teacher begins the lesson with a brief introduction to artificial intelligence. He explains what artificial intelligence is, how it works and what advantages it has.

• Discussion of the use of artificial intelligence in education

The teacher then conducts a discussion on how artificial intelligence can be used in education. He can ask students questions such as:

* How can artificial intelligence be used to personalize learning?

* How can artificial intelligence be used to automate routine tasks?

* How can artificial intelligence be used to create new ways of learning?

• Practical lesson

In a hands-on lesson, students can try using artificial intelligence software to create their own applications or games. For example, students can use an artificial intelligence tool to create a program that can help them learn new words or solve math problems.

The teacher concludes the lesson by summarizing what the students have learned about artificial intelligence. He may also discuss some of the potential risks of using artificial intelligence in education.

Conclusions

In general, the use of artificial intelligence in computer science lessons has both advantages and disadvantages. It is important to carefully weigh these factors before deciding whether to implement AI in your training program. AI is a powerful technology that has the potential to change the future of work. However, it is important to note that AI is a tool that can be used for both good and evil. It is important that AI is used responsibly and ethically so that it can bring the greatest benefit to society.

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