

SECTION XXI. PÉDAGOGIE ET ÉDUCATION

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APPLICATION OF ARTIFICIAL INTELLIGENCE COMPONENTS IN THE STUDY OF COMPUTER SCIENCE BY COLLEGE STUDENTS

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Artificial intelligence (AI) is playing an increasingly important role in the modern world. The use of AI in education provides an opportunity to improve the quality of education and stimulate students. Computer science students need to be regularly exposed to modern trends. This will allow students to become specialists in their chosen professional field. Acquiring professional competences and practical skills is an important component for students.

The introduction of artificial intelligence components is possible when studying the discipline "Computer Science". This discipline makes it possible to widely apply artificial intelligence in various fields. This discipline includes such sections as computer graphics, computer animation, graphic design, databases, three-dimensional modelling, web technologies, and others.

When studying artificial intelligence in computer science classes, students should familiarize themselves with various aspects of this field. Students should have an understanding of basic concepts and terms related to artificial intelligence, such as neural networks, machine learning algorithms, deep learning, natural language processing, etc. Students should be introduced to ethical issues related to the use of artificial intelligence, including data privacy, security, controversy, and societal impact. They should understand the importance of ethical considerations and the ability to develop ethical solutions when working with artificial intelligence.

Studying artificial intelligence as part of a computer science course has its advantages. The study of artificial intelligence helps students develop key competencies such as critical thinking, problem-solving, analytical skills, and creativity. They learn how to analyse, evaluate and develop intelligent algorithms, which is of great importance in the modern world. The study of artificial intelligence gives students the opportunity to understand its potential and apply it in various areas of their future professional activities. Knowledge of artificial intelligence is becoming increasingly valuable and sought after in the labour market. Students who have experience with artificial intelligence have an advantage when looking for a job and can count on high-paying positions.

There are also difficulties that a student may encounter when studying the elements of artificial intelligence. Implementing artificial intelligence requires an understanding of complex software tools and algorithms. This can be a challenge for

students with limited experience in this area. And also, a limited number of free components for working with artificial intelligence.

Below are options for integrating artificial intelligence into some computer science courses for college students. One of the examples of the integration of artificial intelligence in the study of computer graphics is the automated generation of graphics. Artificial intelligence can learn to recognize patterns and create graphics based on these patterns. For example, use the Midjourney neural network, which can create digital images based on natural language descriptions.

It is also possible to integrate artificial intelligence when studying the computer animation section. Artificial intelligence can be used to generate animation effects. For example, artificial intelligence can learn to analyze input data and create animation effects that better match given parameters.

Integration of artificial intelligence in the study of the graphic design section. Artificial intelligence can be used for automated creation of layouts and design of brochures, magazine spreads, advertisements, creation of logos, creation of unique fonts, design of books and others. Artificial intelligence can analyze the requirements and wishes of customers and create mock-ups and blanks with given parameters. Artificial intelligence can be used to improve color harmony and composition in graphic design. Students can learn the basics of color and composition and use AI to create more harmonious and aesthetic designs.

There are many separate programs, as well as software applications that integrate work with an artificial intelligence component, for example, such programs as: Autodraw, DALL-E 2, Leonardo.Ai, Weblium, chatGPT, DreamStudio AI, Adobe Photoshop: Canva, Maya, Adobe Character Animator, Unity3D, NVIDIA GauGAN, Elai.io, Synthesia, DeepBrain AI, Designs.ai, Podcastle, Soundraw, Logo AI generator.

In conclusion, the integration of artificial intelligence in the study of some sections of computer science for college students can bring significant benefits. Development of key competencies, increasing competitiveness in the labor market, understanding the possibilities of application in the real world, and more. The examples of integration that have been given reflect the diversity of AI capabilities in these areas. The growing role of artificial intelligence in education requires attention and research to ensure the effective use of these technologies. Studying artificial intelligence encourages students to think creatively and develop new ideas. They can innovate in the IT field and develop new solutions based on artificial intelligence that contribute to the progress and development of society.
