

ARTIFICIAL INTELLIGENCE IN EDUCATION SYSTEM

Arnurkyzy A.¹, Saduakas A.² (Republic of Kazakhstan)

¹Arnurkyzy Aruzhan – Student,

²Saduakas Akbota - English teacher,

SECONDARY SCHOOL-GYMNASIUM № 19 NAMED AFTER M. ZHUMABAYEV,
TALDYKORGAN, REPUBLIC OF KAZAKHSTAN

Abstract: artificial Intelligence (AI) has emerged as a transformative force in the realm of education, offering innovative solutions to enhance learning experiences and educational outcomes. This article provides a comprehensive exploration of the applications, advantages, and challenges associated with the integration of AI in education systems. The paper discusses how AI technologies, including adaptive learning platforms, intelligent tutoring systems, and data analytics, contribute to personalized and efficient learning environments. While highlighting the potential benefits such as personalized learning, data-driven decision-making, and global connectivity, the article also addresses critical concerns related to privacy, bias, and equity. Emphasizing the need for responsible implementation, teacher training, and ethical considerations, the article seeks to contribute to a deeper understanding of the role and impact of AI in shaping the future of education systems worldwide

Keywords: AI, education, law, medicine, tools, techniques, complex discipline.

ИСКУССТВЕННЫЙ ИНТЕЛЛЕКТ В СИСТЕМЕ ОБРАЗОВАНИЯ

Арнуркызы А.¹, Садуакас А.² (Республика Казахстан)

¹Арнуркызы Аружан – студент,

²Садуакас Акбота – преподаватель английского языка,

Средняя школа-гимназия № 19 имени М. Жумабаева,
г. Талдыкорган, Республика Казахстан

Аннотация: искусственный интеллект (ИИ) стал преобразующей силой в сфере образования, предлагая инновационные решения для улучшения качества обучения и повышения результатов обучения. В этой статье представлено всестороннее исследование приложений, преимуществ и проблем, связанных с интеграцией ИИ в системы образования. В документе обсуждается, как технологии искусственного интеллекта, в том числе платформы адаптивного обучения, интеллектуальные системы обучения и анализ данных, способствуют созданию персонализированной и эффективной среды обучения. Подчеркивая потенциальные преимущества, такие как персонализированное обучение, принятие решений на основе данных и глобальная связь, в статье также рассматриваются критические проблемы, связанные с конфиденциальностью, предвзятостью и равенством. Подчеркивая необходимость ответственного внедрения, подготовки учителей и этических соображений, статья призвана способствовать более глубокому пониманию роли и влияния ИИ на формирование будущего систем образования во всем мире.

Ключевые слова: ИИ, образование, право, медицина, инструменты, методики, комплексная дисциплина

UDK 37, 1174

The current explosion of exciting commercial and open-source AI is likely to be followed, within a few years, by creepily super-intelligent AI - which top researchers and experts fear could disempower or wipe out humanity. Scientist Max Tegmark describes an optimistic vision for how we can keep AI under control and ensure it's working for us, not the other way around [1].

Artificial Intelligence was created by mankind, it also requires human's brain. But nowadays some of them have already become independent. We can divide AI into two parts. Narrow AI and General AI. Narrow AI is used for simple tasks. We can give for example Siri or Alexa. General AI is used for difficult tasks. As we called them independent. But still, they are biosynthetic machines used as forced labor.

In this field, Leonardo Da Vinci's lasting heritage is today's burgeoning use of robotic-assisted surgery, named after him, for complex urologic and gynecologic procedures. Da Vinci's sketchbooks of robots helped set the stage for this innovation. AI, described as the science and engineering of making intelligent machines, was officially born in 1956. Nowadays there are several areas where AI is used. For instance, in law, in medicine, and especially in education [2].

AI in medicine has two branches: virtual and physical.

The virtual branch is much simpler than the physical. Mostly it is used for gaining information. Controlling health management systems, including electronic health records and guidance for doctors in making urgent decisions.

The physical branch needs physical labor from AI's side. Mostly we use it to help elder patients and assist in surgeries.

Nowadays, crime is a common thing in our community. People need help. And that help can be provided by AI.

Now AI is taken in law courts. Because it has the potential of studying and analyzing everything. So why not use this advantage in the law area?

AI studies the law system and starts to take part in courts. It's not a surprise to many people, because AI is already slowly creeping its way into Indian Law.

Another area is education. The goal is to leverage AI tools and techniques to improve the learning experience for students, streamline administrative tasks for educators, and facilitate more effective educational outcomes. AI in education encompasses a wide range of applications and technologies designed to adapt, personalize, and optimize the teaching and learning experience.

AI is a complex discipline with many theories, techniques, and technologies. Its main directions are the following:

- Machine learning is a field of knowledge that explores algorithms that are trained on data in order to find patterns. It uses neural network methods, statistics, and operations research to identify hidden useful information in the data;

- a neural network is a mathematical model, as well as its software or hardware embodiment, built on the principle of organization and functioning of biological neural networks;

- Deep learning uses complex neural networks with many neurons and layers. Increased computing power and advanced techniques are used to train these deep neural networks, as well as to detect complex patterns in huge amounts of data;

- cognitive computing is a field of artificial intelligence, the task of which is to ensure the process of natural human interaction with a computer, similar to interaction between people. The ultimate goal of artificial intelligence and cognitive computing is to simulate human cognitive processes by a computer through the interpretation of images and speech with the appropriate response;

- Computer vision pattern recognition and deep learning for image and video recognition;

- Natural language processing is the ability of computers to analyze, understand, and synthesize human language, including spoken language. Now we can control computers using the usual language used in everyday life [3].

There are several advantages of AI in education:

- Artificial intelligence systems can analyze the performance of individual students and adapt learning materials based on the space, style, and strengths of each student, providing a more personalized and effective learning process.

- AI-powered educational tools, such as chatbots, provide instant support and information to students at any time, creating a more flexible and accessible learning environment.

Despite the numerous advantages, the integration of Artificial Intelligence (AI) in education also presents some challenges and potential disadvantages. For instance:

- Access to AI-powered educational tools may not be uniform across all students, potentially widening educational inequalities.

- Not all students may have equal access to technology or high-quality AI applications. AI lacks emotional intelligence and may struggle to understand and respond to the emotional needs of students. Human interaction and emotional support remain critical in the learning process.

When we talk about AI or hear the news, almost everyone assumes that this is the big technological giant and has nothing to do with you. But little did they know that they were participating in our everyday life. I think most of us haven't even known that they are using Artificial Intelligence already.

Here are some examples that prove us right:

- Google

Everyone uses Google on a daily basis without even knowing it. However, it's an AI-based app too.

- Smart House

The magical houses that do everything you want. Sounds like a lie, isn't it? But this house only works with artificial intelligence.

- Voice assistants

When you want to ask a question or find something who do you ask? Of course, your digital voice assistants. They are Siri or maybe Alexa.

Personally, I use Google every day for different reasons. That means I have been using AI all this time! Sounds incredible!

Despite those facts, we are not stopping at this point. As we already mentioned Artificial Intelligence can be used everywhere. So we want to recommend some tools that are based on this.

- ChatGPT - solves anything

- Copy.AI - writes everything

- Midjourney - creates art

- Soundraw.io - creates music

- Kaiber - creates videos

- Runway - edit videos

Our list can go on and on, but these are the most important ones.

In conclusion, AI is becoming an essential part of our life rapidly. Mankind thought that artificial intelligence would be here for a long time, maybe in 20 years or more. But, look around! Does it really look like 20 years? It's just around the corner. People should never say that AI is a long-termed project. Because it's already here.

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