ORGANIZING CAREER-ORIENTED EDUCATION THROUGH THE USE OF ARTIFICIAL INTELLIGENCE SYSTEMS

Nafasov Ganisher Abdurashidovich[1]
[1]*Associate Professor of the Department of Mathematics, Doctor of Philosophy (PhD) in Pedagogical Sciences, Gulistan State University*
E-mail: gnafasov87@gmail.com
Qudratov Alijon Normamatovich[2]
[2]*Senior Lecturer, Department of Information Technologies Gulistan State University*
E-mail: a.n.qudratov@gmail.com
Bahodirov Muzrob Doniyor ogli[3]
[3]*Lecturer at the Department of Information Technologies, Gulistan State University*
E-mail: muzrobbakhodirov@gmail.com

Abstract: *This article provides a scientific analysis of the application of artificial intelligence (AI) technologies in career-oriented education, highlighting their capabilities, advantages, and pedagogical effectiveness. Modern AI systems play a significant role in recommending suitable career paths based on learners' interests, cognitive potential, competencies, and labor-market demands. The article discusses AI-based career selection algorithms, adaptive learning platforms, intelligent diagnostic tools, and personalized educational programs. The research results demonstrate the potential of AI to digitalize and optimize the career-guidance process.*

Keywords: *artificial intelligence, career guidance, digital education, personalized learning, intelligent diagnostics, adaptive learning, labor market, competencies.*

ОРГАНИЗАЦИЯ ПРОФЕССИОНАЛЬНО-ОРИЕНТИРОВАННОГО ОБУЧЕНИЯ С ИСПОЛЬЗОВАНИЕМ СИСТЕМ ИСКУССТВЕННОГО ИНТЕЛЛЕКТА

Аннотация: В статье проводится научный анализ применения технологий искусственного интеллекта (ИИ) в профориентированном обучении, рассматриваются их возможности, преимущества и педагогическая эффективность. Современные системы ИИ играют важную роль в рекомендации подходящих профессиональных направлений на основе интересов, интеллектуального потенциала, компетенций учащихся и требований рынка труда. В статье представлены алгоритмы профориентации на основе ИИ, адаптивные образовательные платформы, интеллектуальные диагностические системы и персонализированные учебные программы. Полученные результаты демонстрируют потенциал ИИ в цифровизации и оптимизации процесса профориентации.

Ключевые слова: искусственный интеллект, профориентация, цифровое обучение, персонализированное обучение, интеллектуальная диагностика, адаптивное обучение, рынок труда, компетенции.

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SUN'IY INTELLEKT TIZIMIDAN FOYDALANIB KASBGA YO'NALTIRILGAN TA'LIMNI TASHKIL ETISH

Annotatsiya: Ushbu maqolada sun'iy intellekt (SI) texnologiyalarining kasbga yo'naltirilgan ta'lim jarayoniga tatbiqi, ularning imkoniyatlari, afzalliklari va pedagogik samaradorligi ilmiy jihatdan tahlil qilinadi. Zamonaviy SI tizimlari ta'lim oluvchilarning qiziqishlari, intellektual salohiyati, kompetensiyalari va mehnat bozori talablariga asoslangan holda mos kasb yo'nalishlarini tavsiya etishda muhim vosita bo'lib xizmat qilmoqda. Maqolada SI asosida ishlaydigan kasb tanlash algoritmlari, adaptiv ta'lim platformalari, intellektual diagnostika tizimlari hamda shaxsga yo'naltirilgan o'quv dasturlarining afzalliklari ilmiy asoslangan holda yoritiladi. Tadqiqot natijalari kasbga yo'naltirish jarayonini raqamlashtirish va optimallashtirish imkoniyatlarini namoyon qiladi.

Kalit so'zlar: sun'iy intellekt, kasbga yo'naltirish, raqamli ta'lim, shaxsga yo'naltirilgan ta'lim, intellektual diagnostika, adaptiv o'qitish, mehnat bozori, kompetensiyalar.

INTRODUCTION

As the global digital transformation unfolds, artificial intelligence is permeating all aspects of education. In particular, AI-based systems are becoming increasingly important in improving vocational education. As professions in today's labor market rapidly change and new specialties emerge, students need to make informed choices about their future careers.

Traditional career guidance methods rely on more general tests, which often don't fully reflect personal characteristics, abilities, real labor market demands, and competencies. Artificial intelligence systems, on the other hand, are capable of analyzing large volumes of data and providing personalized recommendations.

Benefits of SI-based career guidance:

- in-depth analysis of the student's knowledge, skills and interests;
- working with labor market data in real time;
- forecasting potential careers;
- formation of individual learning trajectories;
- digital diagnostics of students' competencies.

The article examines the scientific basis for the potential of artificial intelligence in career guidance.

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In the era of digitalization and globalization, education is undergoing transformation, embracing new, high-level intellectual tools. In this context, the implementation of neural networks, artificial intelligence, and other fundamental digital tools is crucial for enhancing the effectiveness of the educational process and advancing scientific research. These measures, in turn, contribute to the development of the country's digital economy and ensure innovative development.

The new Uzbek education system is an important component of the development of our state, requiring special attention to the training of highly qualified specialists who have the necessary competitive advantages in the labor market and are ready to realize their potential in the digital economy [1, 2, 3].

Given the importance of using artificial intelligence in education, there is a growing recognition of the need to develop educational programs and tools that are personally and professionally oriented in the educational process to improve the quality and effectiveness of education.

LITERATURE ANALYSIS.

Lately, we've been hearing a lot about the penetration of artificial intelligence into all areas of human activity, including education. In this study, we'll try to understand what it is and how it will impact the development of society and education.

Artificial intelligence (AI) is a field of science and technology aimed at creating machines that can imitate human intelligence.

Neural networks are mathematical models, massive computing code capable of making predictions, solving a given intellectual problem based on the evaluation of a given set of criteria, generating enormous data sets, databases, and the most productive data in the field of artificial intelligence. The advantage of neural networks is their ability to learn; they can learn independently, without the direct involvement of an IT specialist in machine learning [2, 4].

Artificial intelligence and machine learning are actively used in education today. These technologies include tasks such as administering and marking exams, automatically selecting materials for students with learning difficulties, encouraging students to engage more meaningfully with a subject, improving their knowledge and

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skills, and analyzing student performance and learning. All this allows for continuous, machine-guided adjustments to student curricula, without any human intervention.

Artificial intelligence is rapidly being integrated into the educational process, and the use of these cross-cutting technologies is growing every year. Let's consider the main areas of application of artificial intelligence in education today. First and foremost, it's the automation of everyday tasks. Teachers bear a great deal of responsibility in working with students: monitoring progress, checking standard assignments, assessing knowledge levels, and preparing for lessons.

Such simple tasks take up a significant amount of time during the classroom learning process. To improve the efficiency and quality of learning, such routine tasks can be delegated to artificial intelligence. We agree that humans will never process texts and other data of the volume that artificial intelligence can handle. Human errors, which artificial intelligence cannot tolerate, are eliminated from such a process.

RESEARCH MATERIALS AND METHODOLOGY

There's a lot of talk these days about personalized education. The introduction of artificial intelligence technologies into the educational environment makes it possible to create individualized study plans for each subject during specialist training, and then monitor student performance. This use of artificial intelligence in education is possible thanks to educators and psychologists developing methods to determine students' abilities, motivation, willpower, and other characteristics, which are then used to formulate an individualized educational program.

The creation of educational programs and specialized content for students also helps personalize the learning process. Many students and teachers actively use this feature [3, 5].

For example, using a single app to teach a foreign language in various formats. This technology recognizes student speech, analyzes sentence structure, vocabulary, and grammar, and provides additional tasks of similar content to reinforce the material. Such apps are very popular, as many have become accustomed to using their devices. Beyond learning foreign languages, this technology is

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applicable to all subjects and has begun to gain popularity among students and teachers.

Personalized learning is a method of developing and implementing a curriculum that places the learner at the center of the learning process, taking into account their individual characteristics. Personalization requires leveraging the power of artificial intelligence for both teachers and learners to enhance the effectiveness of the learning process.

Artificial intelligence is capable of collecting and analyzing large volumes of diverse data, forming a comprehensive picture of the situation. Furthermore, artificial intelligence is capable of predicting its own development from a given starting point and suggesting options for adjusting it based on demand.

RESEARCH RESULTS AND DISCUSSION

Artificial intelligence, which can be applied to the learning process, can identify specific subjects and areas within these subjects where students are experiencing difficulties. This helps analyze the situation at a given moment and identify the need for additional support. Furthermore, each technology can determine whether the amount of support should be reduced or increased in the future. This concept helps create a personalized learning path, taking into account the following parameters: interest in the subject, psychological state, ability to perceive specific information at a given moment, etc.

In the age of digitalization of education, in addition to acquiring professional competencies, it is essential to develop skills. The ever-growing volume of information and knowledge has a profound impact on the human brain. It is impossible to absorb all information, but artificial intelligence can assist in completing various types of tasks, allowing students to develop critical thinking and creativity. Today, end-to-end technologies can be an excellent aid in collecting and filtering data, helping students learn more effectively and teachers improve the quality of educational materials.

Neural networks are rapidly gaining interest among educational institutions and platforms: by analyzing student activity, artificial intelligence can automatically identify weaknesses in their performance in certain subjects, which, in turn, indicates the need for additional intervention and subsequent support from teachers.

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The concept of introducing artificial intelligence into the educational process is aimed at personalizing the system, adapting the abilities of students, as well as controlling the social component, ease of use and practicality [4, 5].

Artificial intelligence can analyze students' interests and suggest appropriate programs and courses. This individualized approach allows for engaging students in the learning process and monitoring their independence in completing assignments during distance learning or self-paced learning [1, 2].

The digital world is a vast stream of information that humans can't process and analyze, but new technologies can do just that. Neural networks help us manage teachers' work schedules and check tests, coursework, and extensive homework assignments. The ability to detect various errors in texts, test solutions, and mathematical equations, even complex ones, is a major breakthrough for education and a very useful tool for teachers.

Another challenge in modern education that can be addressed with neural networks is career guidance, aimed not only at preparing students for career choices but also at helping graduates find their way to a career and subsequent employment. A logical chain constructed by the machine, analyzing the answers to various questions, yields a detailed picture of a person's abilities and interests.

CONCLUSION

Developing career guidance education based on artificial intelligence is a priority area for the development of the modern education system. AI technologies enable in-depth analysis of students' individual characteristics, identifying suitable career paths, integrating with the labor market, and developing a student-centered education. Research results show that the use of AI technologies improves the accuracy and efficiency of career selection. In the future, AI-based career guidance systems will contribute to further improvements in the quality of education.

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