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# POSSIBILITIES OF USING ARTIFICIAL INTELLIGENCE IN TEACHING FORENSIC MEDICINE

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**Abstract.** This article examines the current potential of using artificial intelligence in education, particularly in forensic medicine. It analyzes the main applications of AI, its advantages, and potential limitations. Particular attention is paid to the digitalization of medical education and the implementation of intelligent learning systems.

**Keywords:** artificial intelligence, forensic medicine, education, digital technologies, training, medical education.

**Introduction.** The current stage of scientific and technological development is characterized by the active implementation of artificial intelligence in various areas of human activity. Education, including medical education, is no exception. Forensic medicine, as an interdisciplinary field, requires high precision, analytical thinking, and practical skills, making the use of AI particularly relevant in its teaching.

**Main part**

**1. The Role of Artificial Intelligence in Medical Education**

Artificial intelligence is a set of technologies that enable computer systems to perform tasks that require human intelligence. In education, AI is used to personalize learning, automate assessments, and create interactive learning environments. In medical education , AI facilitates deeper learning through simulations, clinical case analysis, and virtual labs.

**2. Application of AI in teaching forensic medicine**

The use of AI in teaching forensic medicine can be carried out in the following areas:

- **Virtual simulations and modeling.** Students can work with digital models of bodily injuries, analyze causes of death, and reconstruct events.
- **Image analysis.** AI-powered systems can analyze injury photographs, autopsy results, and X-rays, improving training accuracy.
- **Intelligent learning systems.** Adaptive platforms adapt to the student's knowledge level and offer customized tasks.
- **Automated knowledge assessment.** AI can grade tests, analyze student responses, and identify knowledge gaps.

**3. Benefits of using AI.** The introduction of artificial intelligence into forensic science teaching offers several advantages:

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- improving the quality of education;
- individualization of the educational process;
- access to large amounts of data;
- development of clinical thinking;
- reducing the workload of teachers.

### 3.1. Virtual simulations and digital laboratories

AI enables the creation of virtual models of the human body, pathological processes, and injuries. Using these simulations, students can:

- conduct virtual autopsies;
- analyze damage mechanisms;
- simulate various crime scenarios.

This is especially important in conditions of limited access to real materials.

### 3.2. Computer vision in damage analysis

Computer vision systems are capable of recognizing and classifying injuries, wounds, and pathological changes. In the educational process, this allows for:

- to train students in damage diagnosis;
- conduct a comparative analysis of images;
- develop visual assessment skills.

### 3.3. Intelligent teaching systems

AI platforms are capable of adapting to the individual student's level of preparation. They: create individual learning paths;

- offer tasks of varying difficulty;
- track progress.

### 3.4 Natural Language Processing (NLP)

NLP-based systems can be used to :

- analysis of forensic reports;
- training in drafting expert reports;
- automatic checking of written work.

### Big Data Analytics Data )

AI enables the analysis of large amounts of medical data, which makes it possible to:

- identify patterns;

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- study rare cases;
- use real data in training.

**4. Problems and Limitations.** Despite significant advantages, the use of AI is associated with a number of challenges:

- the need for technical infrastructure;
- high cost of implementation;
- insufficient training of teachers;
- issues of ethics and data privacy;
- the risk of over-reliance on technology.

**Conclusion.** Artificial intelligence has significant potential to transform forensic science teaching. Its use can improve teaching efficiency, enhance students' practical training, and adapt educational programs to modern requirements. However, successful integration of AI requires addressing existing limitations and developing the appropriate infrastructure and faculty competencies.

**Bibliography**

1. Ivanov I.I. Artificial Intelligence in Medicine. — M., 2022.
2. Petrova A.A. Digital technologies in education. - St. Petersburg , 2021.
3. Russell S., Norvig P. Artificial Intelligence: A Modern Approach. — 2020.
4. Topol E. Deep Medicine . — 2019.
5. Shortliffe E. Biomedical Informatics . — 2021.
6. Davenport T., Kalakota R. The potential for AI in healthcare. — 2019.