

Neuronet in medicine: goals and ways of using it among medical students

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The modern world offers students a significant variety of opportunities to optimize the learning process. There are many open online libraries with unlimited access for anyone. Artificial intelligence has become one of the most modern and unique learning tools of its kind. Artificial intelligence is "a set of technological solutions capable of simulating human cognitive functions and achieving results at least comparable to human intelligence, which also includes the ability to self-learning and find solutions without predefined algorithms" [2]. This definition dated back to 1990, but it remains relevant to this day. Neuronet is increasingly penetrating into all areas of public relations: transport, communications, science, finance, law, military, service sector, marketing and leisure activities, including education and medicine. The problem of using artificial intelligence in the process of teaching medical students is the key aspect. There is the use of neuronet in healthcare: is it a risk or an opportunity? As for risks, the following aspects are highlighted [1]:

1. accuracy of data
2. data security
3. the ethical matter

The sociological survey was conducted among students of Saratov State Medical University named after V. I. Razumovsky of the following faculties: medical, dentistry, pediatrics, pharmacy, clinical psychology, preventive medicine and nursing. There are 100 respondents in total. The main questions were put forward by the students:

1. There is an understanding of how to ask an artificial intelligence question correctly, but there is no knowledge of the mechanisms for generating an answer.
2. The majority of students used neural networks to write reports (76%), essays (53%), situational tasks (50%), tests (53%) and term papers (24%)
3. The minority of students used neural networks to model a virtual model of cells/tissues/organs/organs systems/the body as a whole (9%), for analyzing medical images/analyses of patients (9%), to model a virtual model of the occurrence/development of pathology (6%)
4. The majority of students (90%) were satisfied with the quality of the tasks performed by artificial intelligence.
5. The students identified the following advantages of using artificial intelligence in the educational process: accessibility of information (82%), simplification of complex topics (69%), automatic creation of notes (53%), selection of literature (50%), assistance in solving situational problems (45%).
6. Students identified the following disadvantages of using artificial intelligence in the educational process: AI students dependence, unwillingness to complete tasks independently (81%), some technical problems at a crucial moment (49%), AI's lack of emotional intelligence in solving problems (41%), the problem of data security (19%), the need to learning to use AI (13%).

These facts reflect the general trend of the modern medical student's attitude towards the use of artificial intelligence in the educational process.

The ethical aspect of the use of neural networks by doctors is the main issue that calling into question of the rationality and humanity of this practice. Empathy is the essential personality trait but AI – is not. One of the solutions to this issue is to distribute tasks in such a way that decision-making does not fall within the area of responsibility of neural networks. Especially concerning human life, health and psychological well-being [3]. The other side of the ethical problem involves the disappearance of jobs, which also harms people. This thesis is still an urgent topic for discussion, and it is difficult to predict reliably. Most of the students in the survey have expressed the idea that artificial intelligence will never be able to completely replace a doctor, as it was created as a tool to help a doctor, not his replacement.

Источники и литература

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