

Editorial



Artificial Intelligence Used in Medical Education and Service

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Artificial intelligence (AI) involves the imitation or simulation of human thinking or intelligence or behavior which is processed by devices or machines, usually with a computer. Here, computers are shaped or prepared to imitate cognitive elements so that computers can imagine like humans – then can be used for learning and problem solving. AI is displayed by machines or electronic devices. Specific applications of AI include expert system usages, processing of language, speech recognition, machine vision and hospital services.

John McCarthy (1927 – 2011), an American computer scientist is considered as the father of AI. The term "artificial intelligence" was used by him for the first time. As a matter of fact, the groundwork for AI began in the early 1900s. Although the greatest progress was not made until the 1950s. Alan Turing wrote "Computer Machinery and Intelligence" which finally became a master piece in this field. His famous Turing Test is used to measure computer intelligence.¹

AI has now become a field or section of academic course or study. Computers and software are developing to create teaching and learning tools having intelligence components. Computers are made or prepared to imitate cognitive units, so that it can think like a human being. This new version of computers for example, can be used for problem solution and academic learning.

Use of AI in medical research

Artificially intelligent computers are used profusely in medical sciences. Common utilizations include diagnosing diseases, end-to-end drug discovery and development, improving contact or communication between physicians and patients. It is also used for record keeping of medical documents, such as prescriptions and treating patients remotely. AI is used to analyze and identify patterns in large, complex datasets of medical records. By using AI, data can be analyzed in a remarkably faster, precise and more cost-effective way than traditional analytical process. So, it reduces time, cost and improves the outcomes of the information.

Use of AI in medical writing

AI-powered language program can be used to check spelling errors and grammar; it also can recommend for alternative word choices. Thus, it can save writers valuable time and help them to produce a work that is more professional and accurate. Many people are afraid, AI will replace human writers. But in fact, AI is a tool that can enhance human creativity, not replace it. To overcome these problems, AI should be used for medical research and article writing in a rational way.

Some common applications of AI in medicine

- o Proper and faster medical diagnosis.
- o Remodeling and improving patients' satisfaction.
- o Managing healthcare data.
- o Performing robotic surgical procedure
- o Radiological analysis of images like MRI
- o Speeding up drug discovery.

So far, it was observed that great success of AI is noted in developing new drugs.² Drug discovery requires a lot of data study and analysis. AI can speed up this work. Some companies already are working on making (for example) cancer drugs using this AI technologies.

Can AI be used to write an article or essay?

The short answer is, yes. Using the apps, an AI-generated article/ essay can be produced at a particular grade level. AI will be able to produce an essay on any topic for the college students or researchers without making too many mistakes in grammar or writing fashion. However, scientific articles are also possible to write by using AI-oriented devices. But there are ethical questions to consider while writing this type of articles. Now-a-days, many IT firm owners or marketing managers work online to write AI provided short and long articles for company website, blogging or social media pages. This could be a money-generating work.

One of the major inadequacies of AI-written content is – it lacks humanity. For this reason, readers can easily identify AI-generated writings for its mechanical style.

Chatbot

Chatbot is a basic computer program that mimics or simulates and processes human conversation (written or spoken), allowing human to interact with a digital device, like computer as if they were communicating with a real human. It can classify patients based on the severity of the physical condition. Thus, it helps healthcare providers to prioritize service according to case. For psychiatric patients, AI chatbots can offer psychological support, providing users with coping different counseling strategies.

OpenAI, founded in December 2015, is a U.S.A.-based artificial intelligence research organization exploring artificial intelligence with the goal of developing a "safe and beneficial" AI system.

Chat Generative Pre-trained Transformer (ChatGPT) is a chatbot developed program produced by OpenAI and which was launched on November 2022. It contains a large language model, that enables users to refine and guide a conversation towards a desired length, level of detail and style of the language.³ Sequential enquires and replies, known as prompt engineering, are considered at each conversation stage as a content.²

In January 2023, it became one of the fastest-growing consumer software applications of all time, gaining over 100 million users and provided OpenAI's valuation to 29 billion US dollar.^{4,5}

In January 2024, Arizona State University (ASU) has signed an agreement with OpenAI to use ChatGPT for the classroom. The university will be using the enterprise version of ChatGPT. Many professors are now using generative AI in the classroom. AI is used in many courses to improve the quality of teaching, learning and writing in classroom. AI is also used in journalism

classes to create multimedia stories.⁶ The students of ASU have the access to use AI chatbots as their personal tutors.

With the introduction of new generation AI and more innovative tools, healthcare system is going to be more advanced in the sense of more awareness, efficiency in delivering patient care. AI's role for identification of complications, accurate diagnosis of diseases and intervention specialties are considered as the most recent approaches.

Misuses of AI include overdependence on AI for diagnosis and treatment decisions – which may lead to a decrease of physicians' skills and expertise. Physicians may be pressured by hospital authorities and patients to accept AI diagnoses and management. Patients may lose kindness, empathy and appropriate behavior from doctors when dealing with robotic physicians and nurses as robots do not own human features such as emotion and feelings. This is one of the most significant negative aspects of AI in medical science.

Medical personnels may lose the creativity. Although AI has been used with creating everything from computer code to visual art, it lacks original ideas about the topic or subject. Possible overdependence on the technology may lead to increased laziness in humans or physicians. Many people may lose and be displaced from job. To use AI in medical education effectively, teachers and trainers must be trained with the abilities and knowledge to engage AI in teaching and evaluation. Healthcare professionals must also be aware of AI systems' abilities and limitations in order to use them effectively in clinical practice.

The integration of AI in healthcare has enormous potential to restructure patient care and outcomes. AI-driven predictive

analytic information can enhance the accuracy, efficiency, and cost-effectiveness of disease diagnosis and clinical laboratory testing. Rational and integrated use of AI in health care and education can make a revolutionary development in medical science.

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