

The Role of Artificial Intelligence in Medicine Field

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DESCRIPTION

Medical science makes substantial use of artificially intelligent computer systems in Diagnosing patients, end-to-end drug discovery and development, increasing physician-patient communication, transcribing medical documents such as prescriptions, and remotely treating patients are all examples of common applications.

Today, AI is employed in laboratory medicine to help with resource efficiency, eliminate unnecessary tests, improve patient safety, and detect abnormal results. Clinical laboratories will undoubtedly face issues analysing, adopting, and testing AI algorithms, both inside and outside their laboratories, as laboratory medicine continues to undergo digitalization and automation. Practicing laboratory workers and clinicians will benefit from understanding what AI is good for and where it may be used, as well as the state-of-the-art and limitations.

The introduction of new technologies, on the other hand, necessitates a willingness to adapt the current structure and perspective toward these technologies, which are not usually well understood. AI is also being utilised in limited clinical settings for molecular/genomic testing, where it accurately identifies variations and matches them to treatment options. Because the design is in accordance with the chemical environment of the target protein site, AI can assist in structure-based drug discovery by predicting the 3D protein structure, which can help predict the effect of a compound on the target as well as safety considerations prior to its synthesis or production.

Case triage is aided by artificial intelligence. It aids in the photos and scans by a clinician. This allows radiologists and

cardiologists to find crucial information for prioritising critical patients, avoiding potential errors in reading electronic health records (EHRs), and establishing more exact diagnoses. AI is capable of analysing large data sets, combining patient insights and resulting in predictive analysis. Obtaining patient insights quickly allows the healthcare ecosystem to identify crucial areas of patient care that need to be improved. AI is also used in wearable healthcare devices to better assist patients. Two disruptive technologies will have a significant impact on clinical laboratory operations; automation and artificial intelligence (the development and use of computer systems able to perform tasks that normally require human intelligence). The scope of laboratory medicine will also be expanded as a result of these technologies. Increased efficiency will emerge from automation, but it will necessitate adjustments to laboratory infrastructure and a shift in personnel training requirements. Artificial intelligence will be applied to massive clinical datasets generated as a result of increased automation, resulting in the development of new diagnostic and prognostic models. Automation and artificial intelligence will work together to facilitate the transition to personalised medicine. To properly participate in these improvements, adjustments in pathology and clinical doctoral scientist training will be required. While computer systems are often more efficient than humans at doing jobs, state-of-the-art computer algorithms in the field of medical sciences have lately attained accuracies that are on par with human experts. Some believe that humans will soon be entirely supplanted in certain medical positions. The purpose of this essay is to explain how artificial intelligence is affecting medical science and to distinguish between hype and reality.

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