

A Review On Artificial Intelligence (AI) in Medical Field.

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ABSTRACT: Artificial intelligence (AI) is a most effective invention that can serve quality healthcare service to the patient and also improve the better results in scientific innovation. AI can be used in many areas of healthcare, including: Diagnosis, Drug Delivery, Patient Care, Drug Safety etc. AI is one of the powerful computer software which are commonly used in medical field.^[1] The most common software consist diagnosis of the patients, contribute in new drug development, enhance the patient counselling with physician and pharmacist, and most important part is create and store the information in data. Computer system runup task more accurate than human. Competitively system save the time as compare with human involvements. There are many things can clearly show the computer system is more superior than humans. The main motivation of this article to discuss artificial intelligence changing the landscape of medical science .^[2]

KEYWORDS: Artificial Intelligence, Technology, Medical Fields, Computer, Software's, Patients, Diagnosis, Treatments, Virtual Assistance etc.

INTRODUCTION:

AI was firstly introduced in America by computer scientist John Mc Carthy *et al.* in 1956.^[2] As well as the great scientist Dietrich Prinz create the program to measure machine intelligence in

chess-playing game. Artificial intelligence is the network of computer science, which are built by innovative machines and having capacity to run up the task which are required by humans.^[3] Some software of AI having ability to contribute in visual perceptions, decision makings, speech recognition, language translator etc. AI having ability to change the era of medical science.^[4]

Artificial Intelligence software follow some pattern in healthcare system. In which software start with collection of large amount of information (Data), That information are employed to get more information, and that kind of data used to create a applicable solution to solve a well designed problems created in medical fields. In another way AI help to physician to find or matching the same symptoms of another patient, in another locations, patient diagnosis, patient prognosis etc.^[5] AI also help in evaluation of new drug delivery by using previous data to get the information about possible impact of drug on human body.^[6] AI also play important role in Clinical trails, Cardiovascular diseases, dermatology, hair transplantation, organ transplantation and more.^[7]

Maybe AI is the valuable asset in the healthcare system but it cannot be replaced by human intelligence, because it will require careful validation, safety and effectivity related training and ongoing monitoring programs.^[8]

This technology constantly upgrading and more effectively contributed in outcomes of healthcare related researches and increases chances of more accurate diagnosis of diseases, and their treatments. AI having capacity to evaluate large amount of clinical data and in short time of period, help physician to identify the disease and treat them.^[9] Otherwise it would be difficult task as well as time consuming part for certain physicians to overlook. The Integral part of Artificial Intelligence in medical field may become more smarter, faster, and effective in worldwide.^[10] Today, electronic gadget like Android, IOS of Apple, Microsoft's are constantly involving in AI technologies, and upgrade itself.^[11]

The main core of artificial intelligence in health care system is accurate diagnosis and accurate treatment. Artificial intelligence play important role in reevaluation of medical data, diagnosed diseases, symptoms, rare symptoms of diseases, modified treatment, modified informative data and improving medical records with minimum time and lowering in cost also.^[12] It can also help in identification of novel treatment in cancer to collecting day by day experience of patients. It will be the game changer part in conquer of chronic diseases. In future patient get remarkable health care service and faster treatment with more ever accuracy than past.^[13]

Executive Applications

AI in medical field is replacing many executive approaches in healthcare. By automated task like data entry, executive tasks may reduce the time of providers, and enhancing overall focusing on patient care. AI having ability to reduce human error in health care service it will indirectly reflect in minimization in healthcare accidents. AI also evaluate the past of patient, allergic condition of patient and give better and faster service. ^[14]

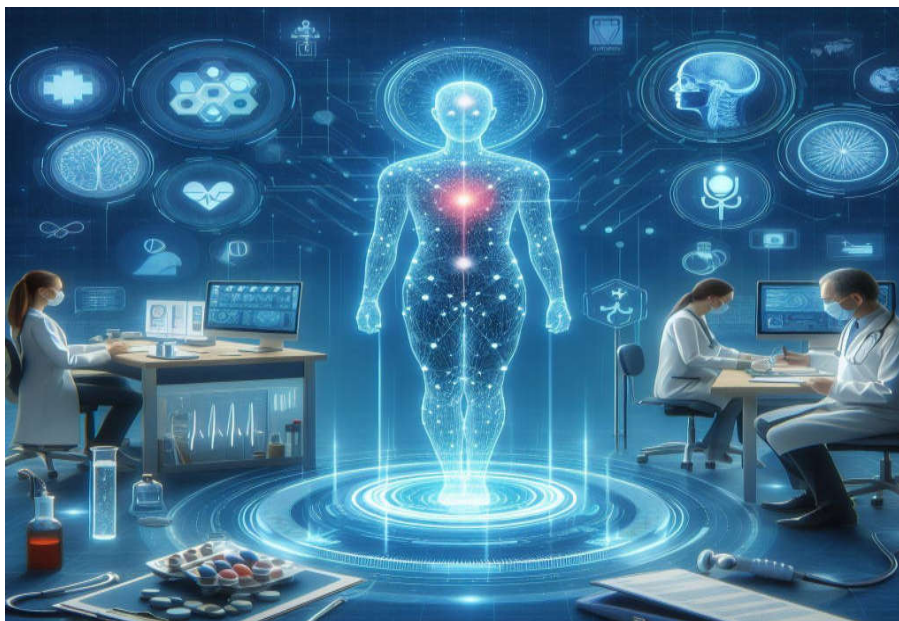


Fig. 1. Artificial Intelligence in Medical Field.

Disease detection and Diagnosis with AI

AI never ever sleep like humans. Software models of machines used to observe the symptoms of patients and generate alert to physician if in case of any risk factors. In case of medical instrument like heart monitor machines are able to track the symptoms of heart beats, and in case of emergency the whole data is collected by AI from the device and generate specific alert to the respective physician. ^[15]

AI in Clinical Trail

Clinical trail consume maximum time in assigning of medical code to patient results and modified the official information. AI can minimize the time by providing faster and more accurate medical codes to give best patient outcomes. ^[16]

Obstructions and Challenges of AI in Medical Science

Now a days use of AI in any filed is common need to improve the accuracy in specific filed but no doubt it will come with some obstructions and challenges. The use of AI in the filed is become necessary in present. Now we already change our mindset and become totally depend on new technology. ^[17]

Collection of Information :-

The availability of information is basic important need in creation of AI system. The superior information plays vital role in creation of well performance software's. The collective information is directly connected with patient privacy. Advance tools and technology may have the capacity to store the large amount of information and may show the more accurate results in short time.^[18] But in case of dispute related to patient privacy, patient have a right to secure the information form public. Some time patient dose not share his information with anyone. So patient privacy create obstructions in collection of such kind of informative data. That phase create limitation to make superior software of AI.^[19]

Data privacy and security :-

As per above discussion artificial intelligence collect maximum amount of sensitive patient information, which is secure under primary level of security like id and passwords. Which can be easily break by cyber attack. This kind of cyber attack may lead to access of that kind of sensitive information of patients.^[20]

Algorithmic Bias :-

AI can be biased due to historical events in medical data, biases in information collection or un-intentional human biases in software developments. This can lead to false treatment, false diagnosis of certain patients.^[21]

Data dependence :-

AI is totally depend on collective information so entry of wrong information in software is easiest way to interrupt the process of AI during diagnosis and treatment. Some time accidentally misdiagnosis is possible by physician, which can affect the processing model of AI under developing stage.^[22]

Lack of creativity :-

AI is nothing but a software who developing by creative thoughts, AI gives prominent face to your thoughts. So lacking in original and unique thoughts may create poor or weak model of AI.

Fear of AI :-

Novel technology directly show negative impact on mental health of humans. Some time regular updates in personalised health data may directly affect on mental health of patients. There are major chances of patients may loose his empathy, kindness, respects while using the AI. ^[23]

CONCLUSION :-

The feature of AI in medical field is most demandable and trustable. In feature AI will be the revolutionary contribute in medical field. AI system can save the valuable time of doctors. It will also help in evaluation in history, diagnosis, treatment of patient by accurate predictions. It can also having

the capacity to manage the large amount of data into portals. AI also contribute by providing second opinion for doctors. AI having capacity to remotely check patients which can be accessible in remote areas.^[24]

Many research found that traumatic disorder patients are feel uneasy for openly talk in human to human interactions. bcz they are feeling uncomfortable and fear of human judgment. But surprisingly that patient more confidently talk with virtual assistant. They are more confidant with virtual assistant bcz they are know about the privacy of virtual assistance.

Most international pharmaceutical industries have positive approach in development of AI in pharmacy fields. They are positively invest time and money in developing of AI in drug inventions of serious diseases like HIV, cancer, heart diseases etc. The smart watch of Apple is used to detect atrial fibrillation. The use of smartwatch in health care system is the new beginning to connect and aware the peoples regarding the personal health data and easily and rapidly provided to doctors. AI having capacity to solve the biggest problems in medical field. But unfortunately we are too fat from this feature. But upcoming feature is most bright and promising in medical field by supportive backup of AI.^[25]

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