The Role of Artificial Intelligence (AI) in the Healthcare Profession

Muhammad Iqbal Afridi

The advent of Artificial Intelligence (AI) has become a revolutionary force, bringing about significant changes in several sectors, including healthcare. AI has the potential to revolutionise the healthcare industry by using its capacity to process many technologies. This transformative capability holds promise for enhancing several facets of patient care, as well as streamlining administrative procedures across provider, payer, and pharmaceutical organisations.

Given the prevailing sense of optimism, one might readily see a future in which robots assume the whole of healthcare provision, and our medical facilities are outfitted with advanced technologies capable of expeditiously diagnosing ailments and prescribing appropriate remedies, maybe very quick within an hour. Although a completely automated healthcare system is not attainable, it is a valuable associate of the healthcare team but necessary to acknowledge the limitations and risk attached to its use.

Machine learning (ML) refers to the process of training procedures by using data sets, such as health records, in order to develop models that possess the ability to execute various tasks, including information categorization and result prediction[1]. In the context of healthcare, deep learning methods are used to analyze medical images, such as radiological images, for tasks such as classification, detection, and segmentation[2]. CNNs, in particular, have proven to be effective for computer vision tasks and have been widely applied in clinical radiology[2].The use of deep learning and other artificial intelligence techniques in healthcare has shown great promise in improving diagnostic accuracy and decision-making[3]. In addition to deep learning, other artificial intelligence techniques, such as natural language processing (NLP), are also utilized in healthcare. NLP is used to extract and classify clinical documentation, enabling the development of AI systems that can assist in handling healthcare services. The combination of AI and NLP can support the creation of strong and secure digital systems in healthcare, incorporating applications of the Internet of Things (IoT)[4].

Robotic process automation (RPA) is a use of artificial intelligence (AI) inside computer programmes to streamline and automate administrative as well as clinical operations. Certain healthcare organisations use Robotic Process Automation (RPA) as a means to enhance both the patient experience and the operational efficiency of their facilities.

Patient safety is undoubtedly the most essential aspect of any medical procedure. A recent study indicating the increasing ethical concerns about the of AI in healthcare and raises critical clinical safety questions that must be considered to use these technologies.

Artificial intelligence (AI) has the potential to support healthcare systems in attaining its 'quadruple purpose' by facilitating the democratisation and standardisation of a future characterised by interconnected and AI-enhanced care, precise diagnoses, precise therapies, and eventually, precise medicine.

Department of Psychiatry, College of Physicians and Surgeons Pakistan

Email: driqbalafridi@yahoo.com
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With the growing number of mental health issues globally, the application of Artificial Intelligence in the diagnosis, treatment and research in the field of Psychiatry will be supported by the existing inadequate mental health facilities in the remote and under developed regions[5]. The field of AI healthcare research is experiencing significant acceleration, as evidenced by the demonstration of potential applications in various areas of the healthcare sector, encompassing both physical and mental health.

References

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