ARTIFICIAL INTELLIGENCE (AI) FOR MEDICAL SCIENCES

Dhondiram P. Gadgile

Department of Botany, Madhavrao Patil Arts, Commerce & Science College, Palam Tq Palam Dist. Parbhani, MS, India
drdhondiramgadgile@gmail.com

Shivaji V. Poul

Department of Zooology, Madhavrao Patil Arts, Commerce & Science College, Palam Tq- Palam Dist. Parbhani MS, India

Abstract
Present research communication deals with a review on applications and challenges in medical science. It was reported that AI has wide range of applications in life science and medical science along with that it also has some challenges.
Keywords: *AI, applications, medical science*

Introduction

Artificial Intelligence (AI) has several broad applications in several disciplines of sciences (Xuet al., 2021). In this review, we aim to review the application of artificial intelligence in medical sciences and explore its future trends. By studying the potential of AI in medical sciences, we can speedup scientific discovery and improve human health. Considering the fact attempt were made to study the applications and challenges of Artificial Intelligence (AI) in medical sciences.

Application of artificial intelligence in medical sciences

AI in drug discovery

AI also has been playing a important role in designing the drugs

AI in disease diagnosis:

AI can be applied in diagnosis of several diseases (Wei et al., 2024).

AI in medical genetics:

Artificial intelligence can play a vital role in genetic risk assessment and disease prevention (Li et al., 2024 and Zhong et al., 2023).

Ai in medical imaging

AI is potentially used in medical imaging (Tang, 2019 and Pinto-Coelho , 2023)

Diagnosis and intervention of mental diseases:

AI also plays a crucial role in diagnosis and intervention od mental diseases. (Anagnostopoulou, et al., 2020, Helmy et al., 2023, Marciano et al., 2021, Moridian et al., 2022, Sarisik et al., 2024)

Challenges of AI applications in medical science

Challenges of AI applications in medical sciences includes ethical challenges, privacy Concerns, data security concern, patient safety and social challenges (Szocik K., 2020, Ahmad, 2023, Arees, 2023, Guliyev, 2023, Pan and Nishant, 2023, Peng et al., 2023, Redrup et al., 2023 and Thai et al., 2023)

References

1. Arees Z A. (2023). The Social Impact of Artificial Intelligence. Encyclopedia of Data Science and Machine Learning: 834-847.

2. Anagnostopoulou, P., Alexandropoulou, V., Lorentzou, G., et al. (2020). Artificial Intelligence in Autism Assessment. Int. J. Emerg. Technol. Learn. **15**: 95−107.

3. Helmy, E.M., Elnakib, A., Elnakieb, Y.A., et al. (2023). Role of artificial intelligence for autism diagnosis using DTI and fMRI: A survey. Biomedicines 11: 1858.

4. Guliyev H. (2023). Artificial Intelligence and Unemployment in high-tech developed countries: New Insights from Dynamic Panel Data Model. Research in Globalization,: 100140.

5. L. Pinto-Coelho (2023). How artificial intelligence is shaping medical imaging technology: a survey of innovations and applications. Bioengineering (Basel). 10 (12): 1435.

6. Li, T., Huang, T., Xiao, N., et al. (2024). Innovative medicine and health management: A special session of The Innovation Conference 2024. The Innovation Medicine **2**: 100088. DOI: 10.59717/j.xinn-med.2024.100088.

7. Marciano, F., Venutolo, G., Ingenito, C.M., et al. (2021). Artificial intelligence: The "Trait D'Union" in different analysis approaches of autism spectrum disorder studies. Curr Med Chem. **28**: 6591−6618.

8. Moridian, P., Ghassemi, N., Jafari, M., et al. (2022). Automatic autism spectrum disorder detection using artificial intelligence methods with MRI neuroimaging: A review. Front. Mol. Neurosci. **15**: 999605.

9. Pan S L, Nishant R. (2023). Artificial intelligence for digital sustainability: An insight into domain-specific research and future

directions. International Journal of Information Management.72: 102668.

10. Peng Y, Ahmad S F, Ahmad A Y A B, et al. (2023). Riding the Waves of Artificial Intelligence in Advancing Accounting and Its Implications for Sustainable Development Goals. Sustainability. 15(19): 14165.

11. Redrup Hill E, Mitchell C, Brigden T, et al. (2023). Ethical and legal considerations influencing human involvement in the implementation of artificial intelligence in a clinical pathway: A multistakeholder perspective[J]. Frontiers in Digital Health. 5: 1139210.

12. Sarisik, E., Popovic, D., Keeser, D., et al. (2024). EEG-based signatures of schizophrenia, depression, and aberrant aging: A supervised machine learning investigation. Schizophr. Bull. sbae150.

13. Szocik K. (2020). Is human enhancement in space a moral duty? Missions to Mars, advanced AI and genome editing in space. Cambridge Quarterly of Healthcare Ethics. 29(1): 122-130.

14. Thai K, Tsiandoulas K H, Stephenson E A, et al. (2023). Perspectives of Youths on the Ethical Use of Artificial Intelligence in Health Care Research and Clinical Care[J]. JAMA Network Open, 2023, 6(5): e2310659-e2310659.

15. Wei, K., Qian, F., Li, Y., et al. (2024). Integrating multi-omics data of childhood asthma using a deep association model. Fundam. Res. 4: 738−751.

16. X. Tang (2019). The role of artificial intelligence in medical imaging research. BJR Open. 2 (1): 1-5.

17. Xu, Y., Liu, X., Cao, X., et al. (2021). Artificial intelligence: A powerful paradigm for scientific research. The Innovation **2** : 100179. DOI: 10.1016/j.xinn.2021.100179.

18. Z.hong, J., Shi, J., and Amundadottir, L.T. (2023). Artificial intelligence and improved early detection for pancreatic cancer. The Innovation 4: 100457. DOI: 10.1016/j.xinn.100457.