The lack of interoperability and connection with established clinical workflows is also a big obstacle when it comes to XAI adoption in healthcare. To be effective, AI systems must be smoothly integrated into clinical workflows, which involves significant investment in terms of resources, infrastructure, and training.

Using XAI in clinical settings may necessitate significant resources, including financial investment and healthcare professional training. Cost and resource constraints may limit XAI's use in healthcare.

Furthermore, given the specific situation and the audience, the XAI approach and the level of information in the explanation must be carefully chosen. For example, if the model is being used for clinical decision-making, the explanation should be precise and particular, whereas a shorter and more generic explanation may suffice for regulatory compliance.

Finally, the verification and validation of XAI results by a medical professional are critical steps in ensuring the AI system's safety, efficacy, and ethical application in clinical and medical practices. Even if the XAI model is highly accurate, there may be biases, flaws, or restrictions in the data or the model that, if not recognized and remedied, could lead to wrong or dangerous conclusions.

Therefore, the use of XAI in healthcare necessitates a careful evaluation of the aforementioned problems as well as the creation of interpretable, transparent, and ethical and legal XAI methodologies. Collaboration between technological experts, healthcare professionals, and regulatory organizations is required to achieve this.

IV. Conclusion

AI not only has the capabilities to assist a human in its day to day decisions but also has the potential to improve the quality of a life for a mankind. Healthcare is a domain which is still reluctant to adapt the AI capabilities in the early diagnosis and treatment despite of its higher accuracy, amidst its opacity towards understanding the rationale behind the autonomous predictions and decision. In healthcare domain, if AI based systems are equipped with explainable AI techniques, then clinician and medical experts will be able to leverage the potential use of AI for early diagnosis of critical diseases like cataract, cancer, or tumour etc. Explainable AI based system deployed on portable devices can help the healthcare experts to take the facility towards remote places to treat the under-privilege people fight against these critical diseases.

Declarations:

Conflict of Interest: The authors declare that they have no conflict of interest.

Ethical Approval: The article does not contain any studies with human participants or animals performed by any other authors.

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