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Artificial Intelligence in Healthcare: Innovations in Early Disease Detection, Diagnostic Tools, and Personalized Treatment Plans

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Abstract: *Artificial Intelligence (AI) is revolutionizing healthcare by enhancing early disease detection, developing advanced diagnostic tools, and personalizing treatment plans. AI- powered algorithms can analyze large datasets, detect anomalies, and support clinicians in diagnosing diseases with high accuracy. This paper explores the integration of AI algorithms in disease prediction, AI-assisted diagnostic tools, and personalized treatment approaches. A thorough analysis of recent studies and advancements demonstrates AI's potential to transform modern medicine while also addressing ethical concerns, data privacy challenges, and biases in AI models. Future research and collaboration between AI researchers, medical professionals, and policymakers are crucial to refining AI applications in healthcare and ensuring ethical and effective deployment.*

Keywords: Artificial Intelligence

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