

Applications of Artificial Intelligence in Healthcare: A Review

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Abstract

Artificial Intelligence (AI) is on the brink of transforming the healthcare industry, bringing significant improvements in the areas of care quality, efficiency, and accessibility. This research undertakes an extensive literature review, exploring the manifold applications of AI in healthcare across various domains. These encompass (i) medical imaging and diagnostics, (ii) virtual patient care, (iii) medical research and drug discovery, (iv) patient engagement and compliance, (v) clinical trial collaboration and model sharing, (vi) rehabilitation, (vii) fraud detection, and (viii) other administrative domains. An array of services encompasses diagnosing clinical conditions, managing COVID-19 cases, offering virtual patient care, organizing electronic health records, enhancing patient participation, and streamlining administrative processes. As we embrace these groundbreaking capabilities, it is crucial to also address the ethical, social, and privacy concerns that arise when integrating AI. This calls for robust governance frameworks to effectively manage the legal, moral, and trust-related intricacies. The significant role played by artificial intelligence (AI) during the COVID-19 pandemic highlights its transformative impact on the healthcare industry and sets the precedent for meeting future healthcare needs.

Keywords: *Artificial intelligence, Medical imaging and diagnostics, Virtual patient care, Ethics, Governance*