

AI-Driven Diagnostics in Personalized Medicine

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Abstract. This article examines the integration of artificial intelligence in diagnostics within personalized medicine, focusing on its potential to tailor medical treatments to individual patients. It highlights machine learning algorithms and data analytics as critical components in predicting disease progression and treatment responses. The article further discusses the ethical and practical challenges of implementing AI in clinical settings.

Keywords: artificial, intelligence, diagnostics, personalized, medicine

Introduction: Personalized medicine represents a paradigm shift in healthcare, moving from a one-size-fits-all approach to treatments tailored to individual genetic profiles and lifestyle factors. The advent of artificial intelligence (AI) has the potential to accelerate this transition, offering unprecedented accuracy in diagnostics and predictive modeling. This article explores the role of AI in enhancing the precision of diagnostic processes, facilitating the customization of therapeutic strategies, and improving patient outcomes. Our discussion extends to the technological, ethical, and logistical challenges that accompany the integration of AI-driven tools into everyday clinical practice.

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