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AI-Driven Pharmaceutical Innovation: Exploring its role in Drug discovery, design, and Optimization

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KEYWORDS	ABSTRACT
Artificial Intelligence, Drug Discovery, Formulation Designing, Machine Learning, Personalized Medicine	Artificial intelligence (AI) has been identified as a potential technological tool capable of effectively employing humanized knowledge for providing therapeutic outcomes for a challenging complication. Remarkable inventions in Machine learning and AI presented a paradigm-shifting in drug discovery, formulation designing, and complementary testing of numerous pharmaceutical dosage forms. Effective utilization of AI algorithms enabled investigators to analyze huge biological data, including genomic and proteomic information, together with the successful identification/prediction of disease-related targets and their potential binding with potential drug candidates. Current technology provides researchers with more proficient and targeted drug discovery methods that ultimately enhance the likelihood of approvals of novel drugs. The current study also discussed numerous AI-based approaches being effectively utilized in pharmaceutical technology, describing its dual positive and negative consequences and promising opportunistic outcomes that might be attained following investment/utilization of AI in pharmaceutical industries, keeping in view its pivotal role in improved patient care and drug development.
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