Industrial Automation using Artificial Intelligence

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Abstract*: The pharmaceutical and consumer healthcare industries have been greatly impacted by artificial intelligence and machine learning. A subfield of computer science called artificial intelligence is able to analyze intricate medical data. The goal of artificial intelligence (AI) is to create intelligent modeling, which facilitates knowledge imagination, problem solving, and decision making. AI is becoming more and more significant in many areas of pharmacy, including drug discovery and formulation of drug delivery, process optimization, testing, and pharmacokinetics/pharmacodynamics (PK/PD) studies growth. This review focuses on the significant applications of AI in various pharmaceutical domains, including drug development and discovery, Many studies are being conducted to enhance the AI technology that is currently available in order to increase the efficiency of the pharmacy profession. Artificial intelligence and system mastery have seen a significant upsurge in recent years. It has lessened the effort required of humans to advance in their extraordinary lives. Numerous drug discovery implementations have been examined, demonstrating the technology's effectiveness in quantitative structure-property relationships (QSPR) and quantitative structure-activity relationships (QSAR).Additionally, they are employed in clinical trials to generate and interpret data gathered from patient information. The pharmaceutical industry is currently having trouble maintaining its drug development programs due to rising R&D expenses and declining productivity. In addition to helping with experimental design, machine learning algorithms can forecast the toxicity and pharmacokinetics of potential drugs. This capability lessens the need for extensive and expensive animal testing by enabling the prioritization and optimization of lead compounds. Artificial intelligence (AI) algorithms that examine actual patient data can support personalized medicine strategies, improving patient adherence and treatment outcomes.*

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