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Patent Search

Invention Title	MACHINE LEARNING INTEGRATED BLOCKCHAIN MODEL FOR INDUSTRY 4.0 SMART APPLICATIONS
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Abstract:

Industry 4.0 represents a transformative phase in manufacturing, integrating digital technologies like blockchain to enhance security, privacy, and data transparency for enterprises of all sizes. Extensive research has delved into the potential disruptions caused by technologies such as Artificial Intelligence (AI), Internet of Things (IoT), Big Data, and Blockchain, particularly in manufacturing and supply chain operations. Blockchain, in particular, has garnered significant attention for its ability to revolutionize these sectors. This work reviews numerous scholarly articles on the intersection of Blockchain and Industry 4.0, exploring its drivers, enablers, capabilities, and potential applications across various domains within Industry 4.0. The study identifies fourteen key applications of Blockchain in Industry 4.0 and highlights the synergy between blockchain and machine learning (ML) in enhancing system security, data management, and decision-making processes. The work also addresses challenges in blockchain implementation across industries and proposes avenues for further research, encouraging the integration of these technologies for smarter Industry 4.0 solutions.

Description:FIELD OF INVENTION
The field of invention focuses on developing a machine learning integrated blockchain model tailored for Industry 4.0 smart applications.
BACKGROUND OF INVENTION
Understanding blockchain's value is crucial for effectively implementing Industry 4.0. Certain sectors, like financial transactions, benefit from blockchain's trustworthiness, excluding issues with foreign currencies and fiat currency. Blockchain can also link product identification and defect recognition in Industry 4.0, safeguarding product details across the supply chain and streamlining retrieval processes. This technology's growth in recent years has led to numerous applications in manufacturing, especially in intelligent factories and Industry 4.0 contexts. Blockchain's decentralization and real-time log creation enhance the efficiency and transparency of transactions, benefiting businesses, particularly SMEs, in patent protection and fostering competition. Its ability to facilitate direct transactions without intermediaries makes it a cost-effective solution for goods and services flow. This work explores blockchain's significant potential in Industry 4.0 and its impact on supply chain continuity and traceability.
The patent application number 201947016621 discloses a securing access to confidential data using a blockchain ledger.
The patent application number 201911022558 discloses an IOT and blockchain based smart saline level monitoring system.
The patent application number 202047010804 discloses a systems and methods for communication, storage and processing of data provided by an entity over a blockchain network.
The patent application number 202121014973 discloses a system and method for time-spatial data partitioning in a blockchain network.
The patent application number 202121024313 discloses a system for quantum entanglement in microservices-based realizations of blockchain platforms.

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