

Artificial Intelligence, Machine Learning and Blockchain in Digital Twin Computing

Artificial Intelligence, Machine Learning and Blockchain in Digital Twin Computing explores the synergy between artificial intelligence, machine learning, blockchain technology, and digital twin computing. The book overviews each technology, establishing a clear understanding of their individual roles and potential when combined. The second section delves into the integration of these technologies, focusing on key themes such as enhancing system simulations, ensuring data integrity, and enabling secure, real-time decision-making. Practical applications and case studies are used to illustrate how this convergence can drive innovation in industries like manufacturing, healthcare, and smart cities. Final sections look ahead, discussing emerging trends, challenges, and future opportunities. Digital twin computing is the bridge between the real and virtual worlds. Digital twin computing also is the mirror that reflects the real world into the virtual world. Blockchain technology can refine the digital twins (DTs) by ensuring transparency, decentralized data storage, data immutability, and peer-to-peer communication in various applications. DT provides a powerful tool able to generate a huge amount of training data for machine learning algorithms (MLAs).

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