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Blockchain Technology and Applications

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Blockchain is an emerging technology that can radically improve security in transaction networks, it provides the basis for a dynamic distributed ledger that can be applied to save time when recording transactions between parties, remove costs associated with intermediaries, and reduce risks of fraud and tampering. This book explores the fundamentals and applications of Blockchain technology; the transparent, secure, immutable and distributed database used currently as the underlying technology for Cryptocurrency. Decentralized peer-to-peer network, distributed ledger and the trust model that defines Blockchain technology will be explained. Components of Blockchain, its operations, underlying algorithms, and essentials of trust will be defined. Types of Blockchain networks including private and public Blockchain networks will be introduced. Concepts of smart contracts, proof of work and proof of stack will be clarified. The relationship between Blockchain technology, Internet of Things (IoT), Artificial Intelligence (AI), Cybersecurity and Digital Transformation will be explored in this book. Myths about Blockchain will be exposed and a look at the future of Blockchain will be presented.

Topics will be covered in this book: Blockchain technology, Smart contracts, Hashing, SHA-256 Hash, Verification, Validation, Consensus models, Digital Mining, Hard fork, Soft fork, Bitcoin, Ethereum, Proof of work, Proof of stack, Myths about Blockchain, Decentralized peer-to-peer network, Types of Blockchain networks, Hot and Cold Wallets, Double Spend, Decentralized Applications, Transaction networks, Sidechains, 51% attack, Cryptocurrency, Digital transformation, Internet of Things (IoT), Artificial Intelligence (AI), Cybersecurity and the Future of Blockchain.



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