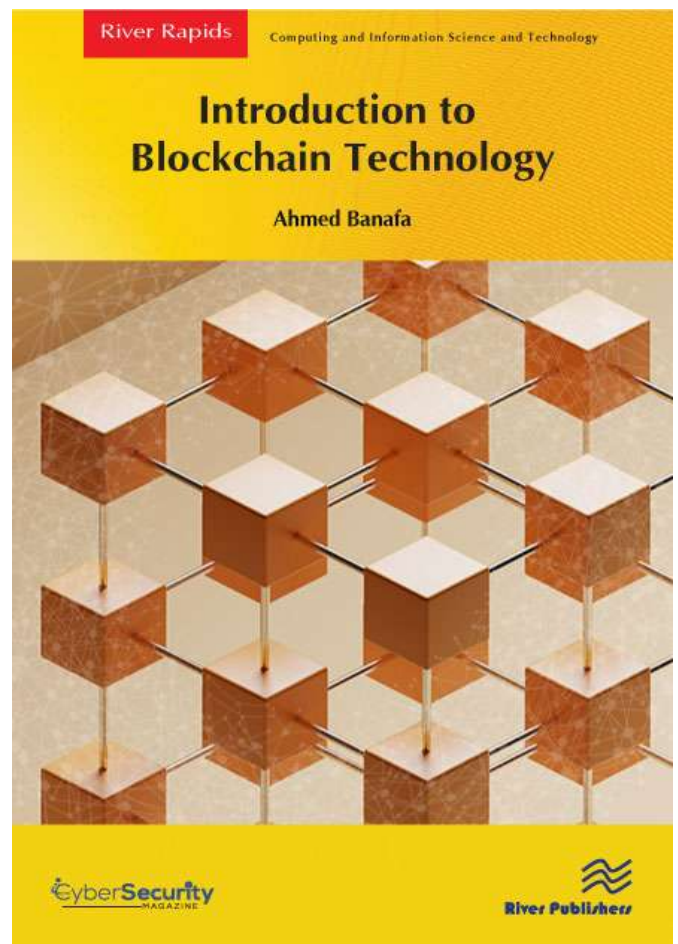


Introduction to Blockchain Technology

Author: Ahmed Banafa, Stanford University, USA

This book explores the fundamentals and applications of Blockchain technology. Readers will learn about the decentralized peer-to-peer network, distributed ledger, and the trust model that defines Blockchain technology. They will also be introduced to the basic components of Blockchain (transaction, block, block header, and the chain), its operations (hashing, verification, validation, and consensus model), underlying algorithms, and essentials of trust (hard fork and soft fork). Private and public Blockchain networks similar to Bitcoin and Ethereum will be introduced, as will concepts of Smart Contracts, Proof of Work and Proof of Stack.

Blockchain is an emerging technology that can radically improve transaction security at banking, supply chain, and other transaction networks. It's estimated that Blockchain will generate \$3.1 trillion in new business value by 2030. Essentially, 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.



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Blockchain, Bitcoin, Ethereum, Cryptography, IoT, Peer-To-Peer, Consensus, Protocols, Proof of Work, Proof of Stake, Decentralized Applications (DApps), Hard Fork, Soft Fork, Smart Contracts, Solidity

