

Blockchain Technology: Securing the Future of Digital Transactions

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Abstract. This article explores the role of blockchain technology in enhancing the security and transparency of digital transactions. We discuss the fundamental principles of blockchain, including decentralization and cryptographic security, and how these contribute to creating a tamper-proof ledger. The article also examines various applications of blockchain beyond cryptocurrencies, such as supply chain management and digital identity verification. We highlight the challenges and future prospects of integrating blockchain into mainstream financial systems.

Keywords: Blockchain, Digital Transactions, Cryptographic Security, Supply Chain, Digital Identity

Introduction

Blockchain technology has emerged as a revolutionary tool for securing digital transactions and ensuring transparency across various industries. This article delves into the core principles that make blockchain a unique and robust solution, such as its decentralized nature and strong cryptographic underpinnings. We explore how blockchain is being utilized beyond the realm of cryptocurrencies, impacting areas like supply chain management and digital identity verification. Additionally, the article assesses the ongoing challenges in adopting blockchain technology within traditional financial systems and its potential future developments.

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