

Secure Smart Healthcare System: An Approach Using Blockchain

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Abstract:

Blockchain technology offers a feasible resolution to persistent challenges in healthcare data security, privacy, and interoperability. This paper presents a streamlined blockchain-based healthcare infrastructure that enables the secure and efficient administration of electronic medical records. The proposed system employs distributed storage, cryptographic encryption, and granular access control to safeguard data integrity, traceability, and privacy. It diminishes the likelihood of data tampering and unlawful access by eliminating centralized dependencies. The framework facilitates simple and efficient data sharing between patients and healthcare providers, while adhering to healthcare data standards. The proposed solution exhibits reduced latency, enhanced scalability, and superior security compared to previous methods, as demonstrated by testing results. The findings suggest that blockchain technology can be leveraged in healthcare systems to enhance patient privacy, improve system reliability, and increase overall service efficiency.

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