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Blockchain-based Security Framework to Protect Research work

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Abstract

The survey and interviews among researchers revealed that they are not fully aware of potential threats, and most researchers are unaware of the security frameworks. The literature survey found several existing blockchain frameworks, yet most do not mainly focus on protecting research work.

Blockchain has gained the attention of researchers as it provides secure, transparent, and immutable solutions for various domains. This research focuses on addressing the issue by providing a novel approach to implementing a blockchain-based research protection framework consisting of predefined rules and hashing technology for better security. The proposed framework provides a trustworthy and robust platform for researchers to store data, verify it, and share their work. The solution consists of an Ethereum-based filesharing framework that enhances the security of the data when transferring and storing with security, transparency, and accountability.

The research outcomes highlight the potential of blockchain technology to revolutionize how intellectual property is protected and shared in academics and communities that require secure data sharing, fostering collaboration while safeguarding their work. The study provides an ongoing discourse on secure file storage and data management, paving the way for further exploration.

Keywords:

Security framework, protect research work, Blockchain, data protection, Data privacy, Access control, transport-layer security.

Subject Descriptors

CCS -> Security and privacy –> Cryptography -> Symmetric cryptography and hash functions -> Block and stream ciphers.

CCS -> Security and privacy -> Human and societal aspects of security and privacy -> Social aspects of security and privacy.

CCS -> Security and privacy -> Database and storage security -> Management and querying of encrypted data.