

EduNetChain: A Blockchain-Based Platform for Student–Alumni Interaction

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Abstract:

EduNetChain is a blockchain-based system designed to address two key challenges in the education sector: secure academic credential verification and effective student–alumni interaction. Traditional verification methods are often centralized, time-consuming, and vulnerable to data tampering, while existing platforms lack structured communication between students and alumni for career support. The proposed system adopts a hybrid approach where academic records are stored in a secure database, and their cryptographic hashes are recorded on the blockchain to ensure data integrity and tamper-proof verification. The platform involves three primary stakeholders—students, alumni, and administrators—where administrators validate student data before generating blockchain-backed credentials, and alumni interact with students by sharing job opportunities and guidance. By integrating blockchain technology with a collaborative interaction model, EduNetChain enhances trust in academic verification while also creating a practical ecosystem for career development. The implementation demonstrates that the system is secure, efficient, and suitable for real-world deployment.

Keywords:

Blockchain, Academic Credential Verification, Student–Alumni Interaction, Smart Contracts, Cryptographic Hashing, Educational Technology, Data Integrity, Decentralized Systems.