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BlockCred (Blockchain Credential)

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Abstract: *In today's educational landscape the proliferation of forged or manipulated student certificates undermines trust in academic credentials. This paper presents a blockchain-based solution for issuing and validating student certificates by recording cryptographic hashes of credential metadata on a distributed ledger and optionally storing full certificate files off-chain. Smart contracts govern issuance and verification, eliminating intermediaries and enabling instant, tamper-proof checks. The proposed system enhances transparency and integrity, reduces verification overhead, and empowers students and employers with direct access to credential authenticity. Challenges such as scalability, privacy of student data, cost of transactions, and institutional adoption are discussed with suggestions for future work.*

Keywords*:* Research Paper, Technical Writing, Science, Engineering and Technology

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