Scopus

Q Search   Sources   SciVal

Back

Enhancing Academic Credential Integrity Through Blockchain-Based Verification Systems

0
Citations 🔔

Frontiers in Artificial Intelligence and Applications · Conference Paper · Open Access · 2025 · DOI: 10.3233/FAIA250509

Awang Abu Bakar, Normi Sham [a] ✉ ; Yahya, Norzariyah [a] ; Idris, Norbik Bashah [a] ; Zakaria, Zayani [b] ; Mohd Nordin, Mohd Asyraf [b]

[a] International Islamic University Malaysia, Kuala Lumpur, Malaysia

Show all information

Full text ∨   Export ∨   🔖 Save to list

Document   Impact   Cited by (0)   References (22)   Similar documents

Abstract

The emergence of forged engineering degrees submitted to the Board of Engineers Malaysia, fake diplomas issued by a former college CEO, and online syndicates selling counterfeit academic credentials for RM1,500 to RM4,000 clearly demonstrates the failure of current institutional controls and emphasizes the urgent need for a secure and unified verification system. This paper examines the potential of blockchain technology as a transformative solution for academic certificate verification. This aligns with Malaysia's National EdTech Policy and the 2018 rollout of the blockchain-based eScroll by the Ministry of Higher Education and six public universities, as well as broader national strategies including MyDIGITAL under the 4IR Blueprint and Malaysia Blockchain Infrastructure. The study reviews current implementations and research on blockchain-based systems, including case studies such as CredChain, EduTrust, and UTM-BADVES, which demonstrate practical viability and enhanced security. A detailed examination of the eScroll system, developed by the International Islamic University Malaysia (IIUM), provides insights into a localized application of blockchain for academic credentialing. The eScroll system utilizes a permissioned blockchain, enabling only authorized institution, such as accredited universities and regulatory bodies to access, verify, and update academic credentials securely and transparently. To ensure data integrity and tamper-resistance, the system employs cryptographic hash functions such as SHA-256, which generate unique, immutable digital fingerprints of each credential. While the technology presents clear advantages, including

Abstract
Author keywords
Indexed keywords
Corresponding auth

Detailed information   ✕

Bibliographic information

Document type	Conference Paper
Open access	Hybrid Gold
DOI	10.3233/FAIA250509
EID	2-s2.0-105021118494
Original language	English
Publication date	16 September 2025
PubMed ID	
Source type	Book Series
ISSN	09226389
Publisher	IOS Press BV
Publication year	2025
ISBN	978-164368619-6
Source title	Frontiers in Artificial Intelligence and Applications
Volume	411
Pages	55 - 67
Volume editors	Fujita H., Hernandez-Matamoros A., Watanobe Y.
Conference name	24th International Conference on New Trends in Intelligent Software Methodologies, Tools and Techniques, SoMeT 2025