

Camera Ready Summary

Conference Name	2025 IEEE International Conference on Computing, Semiconductor, Mechatronics, Intelligent Systems and Communications
Track Name	Computing
Paper ID	368
Paper Title	A Blockchain-Based Framework for Secure Management of Government and Law Enforcement Records
Abstract	<p>The integrity, security, and accessibility of government and law enforcement records are fundamental to public trust. Yet, traditional centralized databases remain vulnerable to data manipulation, cyberattacks, and systemic inefficiencies that can compromise sensitive legal documents and undermine judicial processes. Blockchain technology offers a paradigm shift toward decentralized trust and cryptographic assurance. This paper presents a robust framework designed using Hyperledger Fabric to secure government legal records and enhance law enforcement procedures. We focus on the practical application of a permissioned blockchain, which is better suited for government use than public, cryptocurrency-based models. The architecture integrates smart contracts to automate legal documentation workflows and employs a hybrid on-chain/off-chain storage model to ensure scalability. Our results demonstrate a functionally complete, tamper-proof system that improves efficiency and provides a fully auditable trail for all record interactions. This work validates the feasibility of blockchain as a foundational technology for next-generation digital governance.</p>
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