

(54) Title of the invention : A SYSTEM AND METHOD TO SECURE ELECTRONIC EVIDENCE MANAGEMENT IN LEGAL PROCEEDINGS

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(57) Abstract :

The present invention relates to a system and method for secure electronic evidence management in legal proceedings, designed to ensure the integrity, authenticity, confidentiality, and traceability of digital evidence throughout its lifecycle. The system comprises an evidence acquisition module for collecting data from multiple digital sources, a preprocessing and classification unit utilizing artificial intelligence for organizing evidence, and a cryptographic hashing and encryption module for securing data. A blockchain-based ledger is employed to maintain an immutable chain of custody by recording all interactions with the evidence in a time-stamped and tamper-resistant manner. The system further includes a secure storage infrastructure with redundancy and disaster recovery capabilities, along with role-based access control and multi-factor authentication to prevent unauthorized access. Additionally, an audit trail mechanism generates legally admissible reports, while an intuitive user interface facilitates efficient retrieval and presentation of verified evidence. The invention enhances reliability, transparency, and efficiency in handling electronic evidence, making it suitable for law enforcement agencies, forensic laboratories, judicial institutions, and regulatory bodies. Accompanied Drawing [FIGS. 1-2]

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