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## Patent Search

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### Inventor

Name	Address	Country	Nat
Dr.C.S.Boopathi	Associate Professor, Department of EEE, SRM Institute of Science and Technology, Kattankulathur, Chengalpattu, Tamil Nadu, India. Pin Code:603203	India	Indi
Dr. J. Siva Ram Prasad	Assistant Professor, Department of Mathematics, V R Siddhartha Engineering College, SAHE a Deemed to be University, Vijayawada, Andhra Pradesh, India. Pin Code:520007	India	Indi
Mr.Jonnalagadda Syambabu	Assistant Professor, Department of AI & ML, Narasaraopet Engineering College, Narasaraopet, Palnadu District, Andhra Pradesh, India. Pin Code:522601	India	Indi
Dr.Kavita T. Rangari	Assistant Professor, Department of BBA (CA), Sinhgad College of Commerce, Pune, Maharashtra, India. Pin Code:411048	India	Indi
Mrs.Veena M Kurup	Assistant Professor, Department of Electronics & Communication Engineering, Institute of Aeronautical Engineering, Dundigal, Hyderabad, Telangana, India. Pin Code:500043	India	Indi
Mrs.Roopalakshmi S	Assistant Professor, Department Computer Science and Engineering, Vemana Institute of Technology, Bangalore, Karnataka, India. Pin Code: 560034	India	Indi
Dr.Prashant Sen	Associate Professor & HoD, Department of Computer Science & Engineering, School of Engineering, Eklavya University, Damoh, Madhya Pradesh, India. Pin Code:470661	India	Indi
Mr.Dipak Chavan	Assistant Professor, Department of Biotechnology and Bioinformatics, Deogiri College, Chhatrapati Sambhajinagar (Aurangabad), Maharashtra, India. Pin Code:431005	India	Indi
Mrs.K.Shilpa Reddy	Assistant Professor, Department of CSE, Vemana Institute of Technology, Bengaluru, Karnataka, India. Pin Code:560034	India	Indi
Dr.Dasari Vijaya Kumar	Adjunct Professor, Department of Environmental Sciences, Andhra University, Visakhapatnam, Andhra Pradesh, India. Pin Code:530003	India	Indi

### Applicant

Name	Address	Country	Nat
Dr.C.S.Boopathi	Associate Professor, Department of EEE, SRM Institute of Science and Technology, Kattankulathur, Chengalpattu, Tamil Nadu, India. Pin Code:603203	India	Indi
Dr. J. Siva Ram Prasad	Assistant Professor, Department of Mathematics, V R Siddhartha Engineering College, SAHE a Deemed to be University, Vijayawada, Andhra Pradesh, India. Pin Code:520007	India	Indi
Mr.Jonnalagadda Syambabu	Assistant Professor, Department of AI & ML, Narasaraopet Engineering College, Narasaraopet, Palnadu District, Andhra Pradesh, India. Pin Code:522601	India	Indi
Dr.Kavita T. Rangari	Assistant Professor, Department of BBA (CA), Sinhgad College of Commerce, Pune, Maharashtra, India. Pin Code:411048	India	Indi
Mrs.Veena M Kurup	Assistant Professor, Department of Electronics & Communication Engineering, Institute of Aeronautical Engineering, Dundigal, Hyderabad, Telangana, India. Pin Code:500043	India	Indi
Mrs.Roopalakshmi S	Assistant Professor, Department Computer Science and Engineering, Vemana Institute of Technology, Bangalore, Karnataka, India. Pin Code: 560034	India	Indi
Dr.Prashant Sen	Associate Professor & HoD, Department of Computer Science & Engineering, School of Engineering, Eklavya University, Damoh, Madhya Pradesh, India. Pin Code:470661	India	Indi
Mr.Dipak Chavan	Assistant Professor, Department of Biotechnology and Bioinformatics, Deogiri College, Chhatrapati Sambhajnagar (Aurangabad), Maharashtra, India. Pin Code:431005	India	Indi
Mrs.K.Shilpa Reddy	Assistant Professor, Department of CSE, Vemana Institute of Technology, Bengaluru, Karnataka, India. Pin Code:560034	India	Indi
Dr.Dasari Vijaya Kumar	Adjunct Professor, Department of Environmental Sciences, Andhra University, Visakhapatnam, Andhra Pradesh, India. Pin Code:530003	India	Indi

**Abstract:**

The present invention discloses an AI-based system for healthcare transaction validation using blockchain technology. The system comprises a transaction interface, an AI validation engine, a blockchain network, and a smart contract module. The transaction interface facilitates the input, review, and submission of healthcare transactions by healthcare providers, patients, and insurance companies. The AI validation engine employs machine learning algorithms to analyze transaction data for accuracy, completeness, and compliance, thereby identifying discrepancies and potential fraud. Validated transactions are recorded in a secure, immutable blockchain ledger, ensuring transparency and traceability. Smart contracts automate transaction processes and validation rules, executing predefined conditions and providing real-time updates to relevant parties. This system enhances the integrity, security, and efficiency of healthcare transactions, addressing challenges related to data integrity, security, and manual verification in traditional methods. Accompanied Drawing [FIGS. 1-2]

**Complete Specification**

Description:[001] The present invention pertains to the field of healthcare transaction management systems, specifically focusing on the validation and verification of transactions within the healthcare industry. It addresses the need for secure, efficient, and reliable methods to manage and authenticate various healthcare transactions including patient data exchanges, billing processes, and insurance claims.

[002] In the healthcare industry, the integrity and accuracy of transaction data are of paramount importance. Traditional methods of transaction validation often involve manual processes that are time-consuming and susceptible to human error and fraud. This invention leverages advanced technologies, particularly artificial intelligence and blockchain, to overcome these challenges by providing an automated and secure system for healthcare transaction validation.

[003] AI offers powerful capabilities in data analysis and anomaly detection, making it an ideal tool for validating complex healthcare transactions. Blockchain technology with its decentralized and immutable ledger, ensures the security and transparency of transaction records. The integration of these technologies in the present invention enhances the overall reliability and efficiency of healthcare transaction management.

[004] AI offers powerful capabilities in data analysis and anomaly detection, making it an ideal tool for validating complex healthcare transactions. Blockchain technology with its decentralized and immutable ledger, ensures the security and transparency of transaction records. The integration of these technologies in the present invention enhances the overall reliability and efficiency of healthcare transaction management.

**BACKGROUND OF THE INVENTION**

[005] The healthcare industry is characterized by complex and multifaceted transactions involving patient data management, billing, insurance claims, and numerous other processes. These transactions are critical to the functioning of healthcare systems but often face significant challenges related to data integrity, security, and validation.

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