(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :19/03/2025

(21) Application No.202541024552 A
(43) Publication Date : 28/03/2025

(54) Title of the invention : Privacy-Preserving Homomorphic Encryption for UPI Fraud Detection

(51) International classification :H04L0009400000, G06Q0020400000, H04L0009000000, G06Q0020380000, G06F0021620000
(86) International Application No :NA
Filing Date :NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

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(57) Abstract :
UPI(Unified Payments Interface) fraud has grown to be a significant security risk due to the quick expansion of digital transactions, requiring sophisticated methods for preventing fraud while protecting user privacy. This study suggests a combined method that uses an LSTM-based NLP model to detect phishing messages and homomorphic encryption to detect UPI fraud while protecting privacy. The two main parts of the system are the analysis of fraudulent transactions and the identification of phishing messages. To stop consumers from falling for phishing attempts, the phishing detection module uses deep learning algorithms to evaluate SMS and email messages and identify fraudulent transaction requests. In order to identify fraudulent behaviour, the UPI fraud detection module simultaneously Analyze transaction trends, including frequency, quantity, and device activity, using XGBoost-based machine learning models. By making it possible to detect fraud without disclosing private financial information, homomorphic encryption guarantees data security. Users get alerts whenever a phishing attempt is identified. The technology has the ability to either prohibit transactions that appear suspicious or alert banks for additional examination. This strategy effectively combats UPI fraud by improving digital transaction security while protecting user privacy.

No. of Pages : 21 No. of Claims : 5