Ensemble Learning for Fraud Detection in Financial Transactions

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Abstract: *Securing financial transactions is essential in the current digital payment environment. This project uses ensemble learning to create a fraud detection framework for net banking and UPI. Our method improves accuracy by combining Random Forests, Decision Trees, and Support Vector Machines, which are ineffective against changing fraud tactics. Data Ingestion, Prepossessing, Exploratory Data Analysis, Model Training, Fraud Detection, and Performance Evaluation are the six modules that make up the system. We decrease false positives and increase the accuracy of fraud detection by utilizing ensemble learning. Our model successfully detects fraudulent transactions, providing insightful information and a scalable financial security solution.*

Keywords: Fraud Detection, Ensemble Learning, UPI & Net Banking Security, Machine Learning Models, Financial Transaction Security

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