

Credit Card Fraud Detection Project Report

Project Title: Credit Card Fraud Detection

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Description:

This project aims to detect fraudulent credit card transactions using a machine learning model. The dataset is highly imbalanced, with only 0.17% of transactions being fraudulent.

Steps:

1. Data loading and exploration.
2. Handling class imbalance using SMOTE.
3. Model training using RandomForestClassifier.
4. Evaluation using confusion matrix, classification report, and accuracy score.
5. Prediction results saved in 'fraud_predictions.csv'.

Class Distribution:

- Class 0 (Non-Fraud): 284,315 (99.83%)
- Class 1 (Fraud): 492 (0.17%)