

Credit Card Fraud Detection

Industry: Finance

Description: Develop a system to detect fraudulent credit card transactions in real-time using transaction data.

Instructions:

1. Load the dataset and explore features like transaction amount, time, and anonymized variables.
2. Handle class imbalance (fraud cases are rare) using techniques like SMOTE or undersampling.
3. Train a model (e.g., Logistic Regression, XGBoost, or Autoencoder) to classify transactions as fraud or legitimate.
4. Evaluate using ROC-AUC and confusion matrix.
5. Simulate real-time detection with a subset of test data.

Dataset: [Credit Card Fraud Detection Dataset \(Kaggle\)](#)

Tools: Python, Scikit-learn, Imbalanced-learn, TensorFlow