AI-Driven Financial Fraud Detection in Digital Payments

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Short Project Summary

We built a machine learning pipeline to detect fraudulent digital payment transactions. Because the fraud class is rare, we focus on recall/F1 for fraud detection, apply SMOTE for balancing, engineer predictive features, and train baseline (Logistic Regression) plus advanced models (XGBoost, LightGBM). We evaluate using classification reports and confusion matrices.

GitHub Repository Link

PASTE YOUR GITHUB LINK HERE (after you create and upload the repo)

Execution Instructions (Reproducibility)

1) Clone the repository.
2) Create a virtual environment and install dependencies: pip install -r requirements.txt
3) Download the dataset (Fraud.csv) and place it in: data/Fraud.csv
4) Run: jupyter notebook → open notebooks/Financial Fraud Detection Analysis.ipynb → Run All cells.

Special Notes (optional)

If the dataset is large, it is not committed to GitHub; instead, the README provides the dataset link.