Assignment Overview

Problem Statement:

You are given a dataset of transactions, some labeled as fraudulent. Your task is to build a fraud detection model that:

- Can handle class imbalance
- Has good explainability

Dataset

Use the following dataset to complete the assignment: **Synthetic Financial Datasets For Fraud Detection**

This dataset simulates mobile money transactions, including account sender/receiver information, transaction types, amounts, and fraud labels.

Deliverables

Please submit a zipped folder (or GitHub repo) containing:

1. Jupyter Notebook / Python Script:

Include the following sections:

- **EDA**: Insights from the dataset (class imbalance, outliers, correlations)
- **Preprocessing & Feature Engineering**
- **Modeling**: Define model selection process
- **Evaluation**:
    - Use metrics: Precision, Recall, F1 Score, ROC-AUC
    - Handle imbalance using SMOTE, class weights, or undersampling
    - How do you plan to monitor false positives?

Submission Instructions

- Deadline: 4 days from receiving this document
- Submit via: GitHub repo
- File Naming: `Firstname_Lastname_InsightAI_Assignment` GitHub repo with same naming
- Email to: akash@insightai.in