MOBILE MONEY FRAUD DETECTION SYSTEM

Introduction

This project develops a machine learning-based system to detect fraudulent mobile money transactions in Tanzania focusing on Mixx (Yas), Airtel Money, and M-Pesa.

Dataset Description

A synthetic dataset simulating mobile money transactions was generated. Features include transaction amount, transaction time, sender age, device change, location risk score, and transaction frequency.

Methodology

Two models were trained: Logistic Regression and Decision Tree. Models were evaluated using accuracy, classification report, and ROC curve. The best-performing model was selected and saved for deployment.

Results

The Decision Tree model achieved higher predictive accuracy and was selected for deployment. The system was deployed using Streamlit to allow real-time prediction.