Payment Fraud Detection System - Project Report

1. Introduction

Payment fraud is a significant challenge in the financial industry, leading to substantial losses. This project aims to develop a robust payment fraud detection system using machine learning techniques, with a user-friendly web interface themed around 'Money Heist' for engaging visualization.

2. Objectives

- Develop a machine learning model to detect fraudulent transactions.

- Build a responsive web application for real-time transaction analysis.

- Provide detailed analytics and visualization of transaction data.

- Use a real-world dataset for training and evaluation.

3. Dataset Description

The project uses the Credit Card Fraud Detection dataset from Kaggle. The dataset contains transactions made by credit cards in September 2013 by European cardholders.

Feature	Description
Time	Seconds elapsed between this transaction and the first transaction in the dataset
V1 - V28	Result of a PCA transformation to protect sensitive data
Amount	Transaction amount
Class	Target variable (0: legitimate, 1: fraud)