Task 1 – Business Problem Understanding

Data Science Internship – Fraud Detection Project

Project Title

Fraud Transaction Detection System

Business Problem

Online payment platforms experience fraudulent transactions that lead to financial losses and reduced customer trust.

Objective

Detect fraudulent transactions in real-time and reduce fraud-related losses by at least 30 percent.

Machine Learning Problem Type

Binary Classification (Fraud / Not Fraud)

Key Performance Indicators (KPIs)

1. Precision
2. Recall
3. F1-Score
4. Fraud Detection Rate
5. False Positive Rate

Required Data Features

1. Transaction amount
2. Transaction time and date
3. Location or IP address
4. Device information
5. User transaction history
6. Number of transactions per day

7 Previous fraud history

8 Target column: is_fraud (0 or 1)

Tools and Technologies

Python, Pandas, NumPy, Scikit-learn, Matplotlib/Seaborn

Expected Outcome

A trained machine learning model that flags suspicious transactions so that the company can block or verify them before financial loss occurs.