Credit Card Fraud Detection Project

This repository contains a machine learning project aimed at addressing the issue of credit card fraud detection. With the rising occurrences of fraudulent transactions, our objective is to build an efficient predictive model to detect and prevent fraudulent transactions in real-time.

Problem Statement

The ABC Credit Card Company has experienced an increase in fraudulent transactions, causing financial harm to its customers. To mitigate this issue, a Data Analyst was tasked with developing a machine learning model to predict fraudulent transactions as soon as they occur. The project aims to empower the bank to take immediate action to prevent fraudulent transactions.

Dataset

url = : https://www.kaggle.com/datasets/mlg-ulb/creditcardfraud The dataset used for this project consists of a binary classification system:

- '0' denotes legitimate transactions
- '1' represents fraudulent transactions

Key Objectives

- Develop and implement a machine learning model for early fraud detection.
- Achieve real-time fraud prediction to enable swift intervention.
- Enhance the bank's ability to prevent fraudulent transactions, safeguarding customers' finances.

Project Structure

- `data/`: Contains the dataset used for model training.
- `notebooks/`: Jupyter notebooks used for data analysis, model development, and evaluation.
- `src/`: Source code for the machine learning model and related functions.