Project Report on

# Credit card fraud

at

# U. V. Patel College of Engineering



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## Guide:

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### Abstract:

It is vital that credit card companies are able to identify fraudulent credit card transactions so that customers are not charged for items that they did not purchase. Such problems can be tackled with Data Science and its importance, along with Machine Learning, cannot be overstated. This project intends to illustrate the modelling of a data set using machine learning with Credit Card Fraud Detection.

### Problem Description:

'Fraud' in credit card transactions is unauthorized and unwanted usage of an account by someone other than the owner of that account. Necessary prevention measures can be taken to stop this abuse and the behaviour of such fraudulent practices can be studied to minimize it and protect against similar occurrences in the future.In other words, Credit Card Fraud can be defined as a case where a person uses someone else’s credit card for personal reasons while the owner and the

card issuing authorities are unaware of the fact that the card is being used.

Fraud detection involves monitoring the activities of populations of users in order to estimate, perceive or avoid objectionable behaviour, which consist of fraud, intrusion, and defaulting.

This is a very relevant problem that demands the attention of communities such as machine learning and data science where the solution to this problem can be automated.

### Notebook used:

Colab - Colab allows anybody to write and execute arbitrary python code through the browser, and is especially well suited to machine learning, data analysis and education. Colab notebooks allow you to combine executable code and rich text in a single document, along with images, HTML, Latex and more.

### Tool, Technology and Library requirements:

#### Pandas

pandas is a software library written for the Python programming language for data manipulation and analysis. In particular, it offers data structures and operations for manipulating numerical tables and time series.

#### NumPy

NumPy is a library for the Python programming language, adding support for large, multi- dimensional arrays and matrices, along with a large collection of high-level mathematical functions to operate on these arrays.

#### Matplotlib.pyplot

Matplotlib.pylot is a state-based interface to matplotlib. It provides an implicit, MATLAB-like, way of plotting. It also opens figures on your screen, and acts as the figure GUI manager.

### Work Flow:

1. First we import all the required libraries such as import pandas as pd , numpy as np and matplotlib.pyplot as plt

2. data reading.

3. data preparation

4. data pre-processing by apply standard scaler.

5. logistic regression model

6. svc

7. create model

8. fit model to training data

9. testing model

### Dataset Name:

Creditcard.csv

### Dataset location:

[https://www.kaggle.com/mlg-ulb/creditcardfraud?select=creditcard.csv](https://www.kaggle.com/mlg-ulb/creditcardfraud?select=creditcard.csv" \t "_blank)

### Github link:

https://github.com/madhavi12345678/craditcardfraud.git

**Code:**

models = pd.DataFrame({

     'Model': ['Logistic Regression', 'Linear SVC',

               'K-Nearest Neighbors', 'Random Forest','XGBoost Classifier'],

    'Score': [logreg\_accuracy, svc\_accuracy,

               knn\_op\_accuracy, rf\_accuracy,xgb\_accuracy]})

models.sort\_values(by='Score', ascending=False)

**Output :**

