**Credit card Fraud Detection**

**Abstract:**

This project aims to develop a machine learning model to detect credit card fraud using the Random Forest Classifier algorithm. The model is trained on a preprocessed dataset containing credit card transactions, with the goal of accurately identifying fraudulent transactions.



**Project Workflow**[**¶**](http://localhost:8888/notebooks/credit%20card%20fraud%20detection.ipynb#Project-Workflow)

1. **Data Preprocessing**:
   * The project utilizes a CSV file named "credit card.csv" containing credit card transaction data.
   * From the original dataset of 122 attributes, 9 relevant attributes are selected for the analysis.
   * The dataset is split into training and testing sets to evaluate the model's performance.
2. **Model Selection and Initialization**:
   * In this project Random Forest Classifier is chosen as the machine learning algorithm for this project.
   * The Random Forest Classifier is initialized with 30 decision trees (n\_estimators = 30) and a random state of 0 for reproducibility.
3. **Model Training**:
   * By fitting the Random Forest Classifier to the training data, the model learns to make predictions based on the collective decisions of multiple trees, providing a robust and accurate classification approach for the given dataset
4. **Testing :**

* Here we give some inputs to the model which are about the credit card usage by the owners . And the model can predict if credit card is used for fraudulent transactions or not .

**Technologies and Platforms used :  
 Platform:** Jupyter Notebook

**Libraries required:**

1. Pandas
2. numpy
3. Matplotlib
4. Scikit-learn

**Dataset:**

Application\_data.csv : click  [here](https://www.kaggle.com/datasets/mishra5001/credit-card?select=application_data.csv)

**Code file:**

Credit card fraud detection.ipynb