[10/10/2022], New Jersey Institute of Technology

# Project Proposal: Credit Card Fraud Detection Using Machine Learning & Python

Adesh Padwal - [app27@njit.edu](mailto:app27@njit.edu)

Daanish Quadri - dq33@njit.edu

Sachin Singh Satyanaraya - ss4725@njit.edu

**Background:**

When we make any transaction, such as purchasing a goods online, many individuals prefer to use credit cards. The credit limit on credit cards might occasionally let us make purchases even if we don't have the money at the moment. On the other side, online criminals abuse these features. To solve this issue, we require a system that can halt a transaction if it detects irregularities.

**Objectives:**

To track the pattern of all the transactions and if any pattern is abnormal then the transaction should be aborted.

**Scope:**

Identifying the fraudulent transactions of credit cards.

**Data Mining Algorithms/ Techniques:**

Decision tree, K-Nearest Neighbors, Logistic Regression, Support Vector Machines, Random Forest, XGBoost

**Software:**

* Python 3.9.6
* Visual Studio Code

**Dataset:** <https://www.kaggle.com/datasets/mlg-ulb/creditcardfraud>

**Libraries:**

* NumPy library will be used for working with arrays.
* Pandas library will be used to import the CSV file.
* Seaborn library is a Python data visualization library based on matplotlib.
* Metplot library will be used to create a figure, to create a plotting area in a figure, to plot few lines in plotting area and to decorate the plot with labels, etc.
* statsmodels is a Python module that provides classes and functions for the estimation of many different statistical models, as well as for conducting statistical tests, and statistical data exploration.
* Sklearn provides a selection of efficient tools for machine learning and statistical modeling including classification, regression, clustering.