Fraud Detection in credit cards..
Project report

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Abstract :

Our Third project in the Data Science Course with SDAIA Academy.
The project was about using classification methods to analysis more than 10,000 data records. So we decided to choose Credit card fraud detection is one of the most important issues for credit card companies to deal with in order to earn trust from its customers. So, we aim to analysis fraud transaction dataset and classify it using python language to allow banks and card credit companies to understand and focus more in solving this fraud.

Design:

Our objective is to classify the data transactions as either legal (isFraud 0) or frauds (isFraud 1) using a machine learning model. Five machine learning models will be trained and tested to determine which will shows the best results, in addition help credit cards companies to find out which data type has the highest frauds

Data :

This dataset presents credit card transactions for number of customers , where we have 8213 frauds out of 6354407 transactions, Also we have 11 features in this dataset.

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Algorithms:

- Feature selection
- SMOTE
- Logistic Regression
- Decision Trees
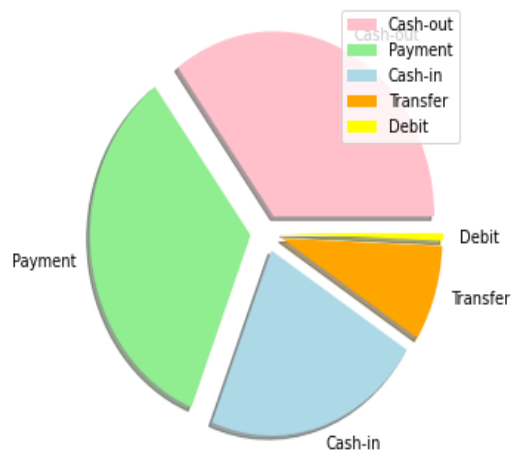- Random Forest
- Gradient Boosting
- XGBoost

Visualization:
- Pie chart: Represent different types of money transactions.
- Factor Plot: Represent the different between legal and fraud transaction
- Bar plot: Represent which type has the highest frauds.

Tools:

- Technologies :Python,Jupyter Notebook
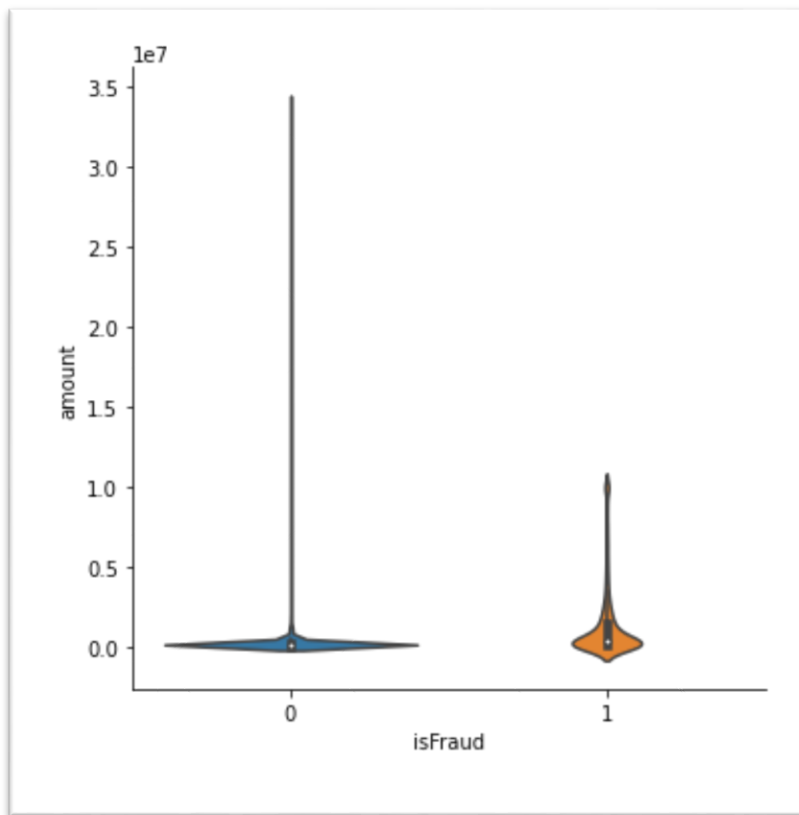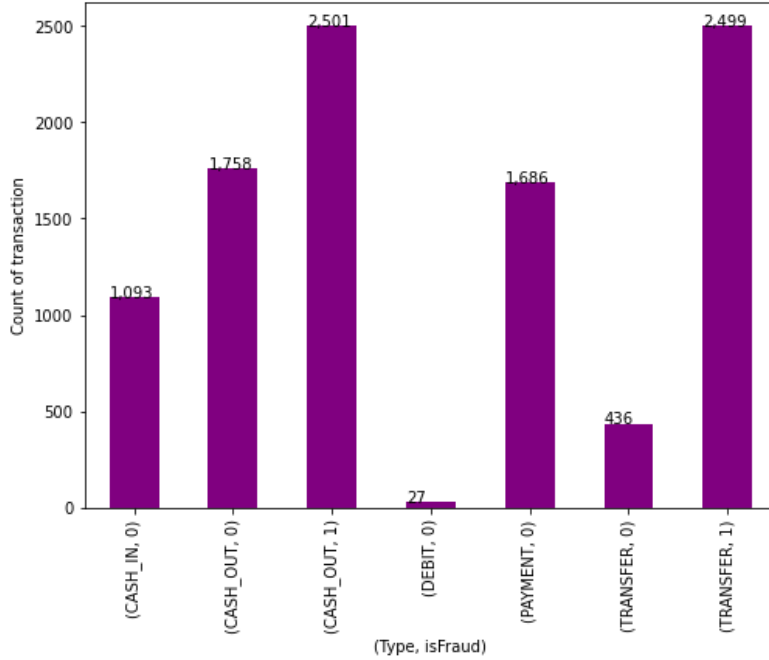- Libraires : Pandas, Numpy ,Seaborn ,Sklearn.
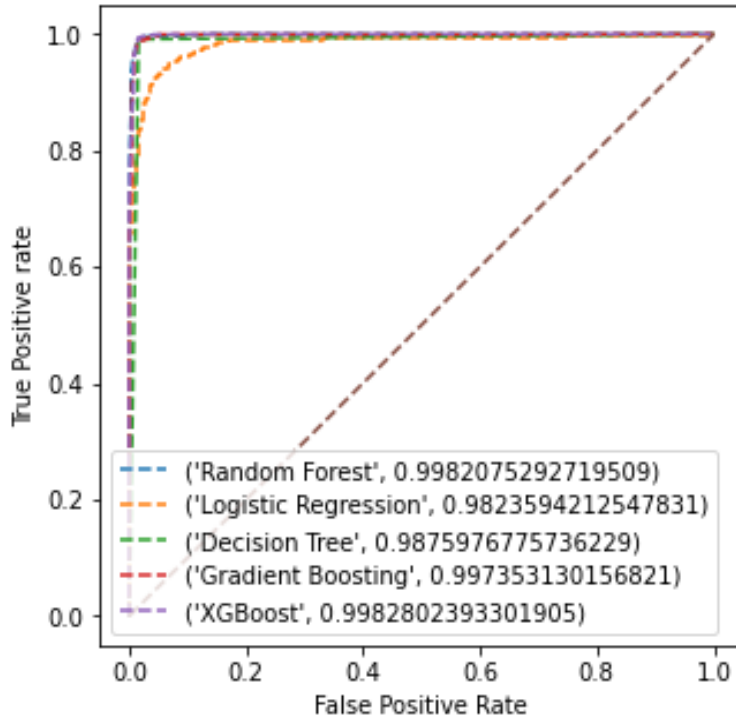
Communications :

A pie chart representing different types of money transactions

Transaction which are the actual fraud per transaction type

Recommandations:

Based in our analysis for the data you can notice how huge is fraud transactions was, So we suggest to cards companies to increase the security of systems, additionally focus more of how to increase people awareness about how important their cards information and how risk is that side of transaction frauds..