MACHINE INTELLIGENCE(UE20CS302)

PROJECT SYNOPSIS

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PROJECT TITLE

CREDIT CARD FRAUD DETECTION

PROBLEM STATEMENT

The problem statement chosen for this project is to predict fraudulent card transactions with the help of machine learning model.

In the project, we will analyse the customer-level data which has been collected and analysed.

The dataset has been taken from the Kaggle website and it has a total of 2,84,807 transactions, out of which 492 are fraudulent. Since the dataset is highly imbalanced, it needs to be handled before model building

ABSTARCT

Credit card fraud detection is presently the most frequently occurring problem in the present world. This is due to the rise in both online transactions and e-commerce platforms.

Credit card fraud generally happens when the card was stolen for any of the unauthorized purposes or even when the fraudster uses the credit card information for his use. In the present world, we are facing a lot of credit card problems. To

detect the fraudulent activities the credit card fraud detection system was introduced.

This project aims to focus mainly on machine learning algorithms. The algorithms used are Random Forest algorithm, Decision tree, logistic regression, Support vector machine, KNN and quite possibly Naïve Bayes and Adaboost algorithm.

The results of the two algorithms are based on accuracy, precision, recall, and F1-score. The ROC curve is plotted based on the confusion matrix. All the mentioned algorithms are compared and the algorithm that has the greatest accuracy, precision, recall, and F1-score is considered as the best algorithm that is used to detect the fraud.

There can be any other algorithm which could have given result better than these given algorithms but we'll mainly focus on what we've mentioned and will come up with the best possible algorithm.

TOOLS

Jupyter notebook

Python libraries (pickle, sklearn, seaborn etc.)

Machine Learning Algorithms

REFERENCES

- https://www.ftc.gov/news-events/press-releases/2019/02/imposter-scams-top-complaints-made-ftc-2018
- https://www.kaggle.com/mlg-ulb/creditcardfraud
- https://www.kaggle.com/uciml/default-of-credit-card-clients-dataset
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