Credit Card Fraud Detection

Course project for EE 401: Pattern Recognition and Machine Learning, Autumn Semester 2019-20

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Report 1

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Abstract

In this introductory report we brief about the project statement, motivation and outline our approach towards its implementation.

1 About

Credit card fraud can be defined as, *'Unauthorized account activity involving a payment card, by a person for which the account is not intended'.*
These frauds cost consumers and banks millions of dollars worldwide, as a response to which several modern fraud-detection techniques are in place today.[1]

2 Motivation

There are multiple approaches to detect these frauds which generally involve one of the following machine learning methods:

- Bayesian Networks
- Decision Tree
- Neural Networks
- Logistic Regression

The task of detecting credit card frauds from a given dataset can be defined as a binary classification of the data based on some characteristic features of frauds.

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3 Our Approach

We propose to build a binary classifier using logistic regression techniques discussed in the class and analyze the results of this classification. Later, we will implment sophisticated techniques to improve the classification results.

4 Data Resources

We will work on the dataset provided in Kaggle, which is available under Open Database license.[2]

References

[1] Review Paper on Credit Card Fraud Detection, *IJCTT, vol. 4, Issue 7th July 2013* http://ijcttjournal.org/Volume4/issue-7/IJCTT-V4I7P143.pdf

[2] https://www.kaggle.com/mlg-ulb/creditcardfraud