

CSE4062 Introduction to Data Science and Analytics

Project Proposal

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Project Name: Fraud Detection on Financial Data

Project description:

This project is designed for the financial services industry, where cyber fraud needs to be tackled, and is aimed at finding out whether transactions are fraudulent, through money transfers and a number of factors.

Dataset explanation:

Consists of 11 attributes and 2,722,362 instances in total. Attributes are as explained below:

step: maps a unit of time in the real world. In this case 1 step is 1 hour of time. Total steps 744 (30 days simulation).

type: CASH-IN, CASH-OUT, DEBIT, PAYMENT and TRANSFER.

amount: amount of the transaction in local currency.

nameOrig: customer who started the transaction

oldbalanceOrg: initial balance before the transaction

newbalanceOrg: new balance after the transaction

nameDest: customer who is the recipient of the transaction

oldbalanceDest: initial balance recipient before the transaction.

newbalanceDest: new balance recipient after the transaction.

isFraud: whether the fraud happened or not.

isFlaggedFraud: attempt to transfer more than 200.000 in a single transaction.

Aim of the project:

The financial services industry and the industries that involve financial transactions are suffering from fraud-related losses and damages. The number of fraudulent customers has reached a high level in recent years. The reason for this is the money stolen from banks. The shift to the digital space opens new channels for financial service delivery. It also created a rich environment for scammers.

In conjunction with this project, development and improvement can be made in the process of detecting real-time fraud attempts.