Hands-on W07: Assignment/Project 1 – Fraud Detection
Relased: 8 October 2020
Submission deadline: 22 October 2020, 12.00
Team Project (one team consists of 4 members)

The objective of this assignment is to explore your capability as data analyst. You are given dataset about credit card transaction, and you are expected to identify some potential frauds based on your analysis.

Basic tasks you need to perform in this project: (Note: you can add additional tasks you think necessary for this project)

A. Exploratory Data Analysis (EDA)
   You need to explore the characteristic of the dataset. It can contain the distribution of value in each feature in the dataset, mean, median, modus, correlation, etc. This step may help you in understanding the dataset and assist you for the next step, i.e., data preprocessing. note: you can provide some visualizations for more engaging presentation and better understanding
B. Data Preprocessing
   In this data preprocessing, first, you must understand the important problem of fraud detection. Then, you may employ some preprocessing techniques, such as dimensionality reduction, outlier data handling, missing value handling, imbalanced-class handling, feature engineering, etc, that you can expect to result the best detection of the fraud.
C. Classification Model
   You can choose some classification algorithms that you think the most suitable for this dataset. You may employ additional techniques, such as ensemble method, to improve the detection performance.
D. Evaluation of Model
   Please use the most suitable evaluation metrics for this fraud detection problem.

Deliverables:

1. Technical report :
   a. A4, Font Times New Roman, 11, single line spacing
   b. Report of step A – step D, highlight some obstacles (if any)
   c. Report your conclusions
2. Presentation

Nb: In the end of slide and report, please write members' names with each own contribution during this project work.

Notes:

Grouping scenario will be explained in the class .