Credit Card Fraud Detection Model v1 Technical Report

[andyinter1@gmail.com](mailto:andyinter1@gmail.com)

Abstract

Credit Card Fraud Detection Model v1 (CCFDv1), a xxx model with xxx parameters and xxx for each xxx. To achieve

To deal with imbalance dataset, high dimensionality, and panel data, CCFDv1 adopts xxx and xxx architectures

The model is trained and applied on synthetic data generated by credit data generator.

Comprehensive evaluation reveals that CCFDv1 outperforms baseline model and achieves performance comparable to AutoML model.

F2 score, memory, execution times, memory

The model is available at github

Benchmark graph

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#### Introduction

#### Architecture

Memory optimization

Azure ML

#### Infrastructures

#### Pre-Training

Synthetic data construction

隨機變數之間的條件依賴關係

隨機生成方式

Data preprocessing

Temporal

Tabular

Hyper-parameters

Method: stratified K-Fold, random search

A para

B para

C para

…

Evaluation

Evaluation Benchmarks

Evaluation Metrics: K Top Precision, F2 score

Evaluation Results

Comparison graph

#### Post Training

#### Conclusion & Limitations

Deployment – real time, concept drift

Sequential learning, neural network LSTM?

Temporal structure and tabular data

#### Future Directions

#### Appendix

Card precision@100 close to proportion of fraudulent transactions percentage

Near real time requirement

Baseline model, Standard prediction models, modified model, NN