FRACTAL LABS

Offer Lab

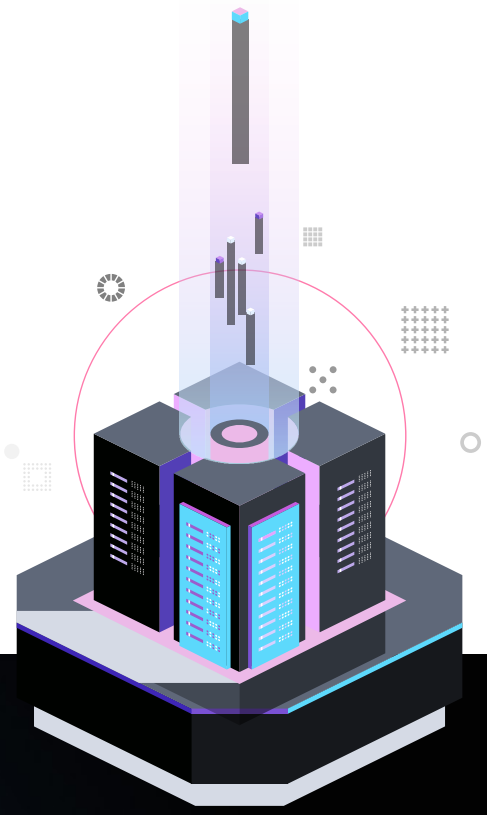
Transactional behaviour modelling creates opportunity to up-sell, cross sell and identify where improvements can be made on spending habits with product expansion possibilities.

Transaction Modeling Engine

- This is an AI classifier that identifies different transactions based on their descriptions using advanced algorithms and feature engineering.
- Automated classification and analysis of transactions ensure consistent and fast results compared to manual processes.
- Transaction data is a rich source of information and can be utilised for further modelling problems, including credit scoring.
- Models are country/context specific.
- Deployed by a leading digital online lender in SA.
- Transactional behaviour modelling creates opportunity to up-sell, cross sell and identify where improvements can be made on spending habits with product expansion possibilities.
- Used for automated affordability calculation and credit scoring.
- 30 categories used for identifying recurring (and non-recurring) expense and sources of income.
- SA model created with c. 1m+ transactions.
- High performance model with 98% confidence levels.

Model building

- Labelled real world transaction data required for training new models.
- Amount of labelled data required depends on:
  - Nature of data (homogeneity, text nature, etc.)
  - Amount of categories required
  - Accuracy requirements. (More data, more accuracy)
- Fractal labs data science team analyses data and determines best model building strategy and data requirements
- Example: Very homogeneous data, 20 categories: 5000 labelled examples



Data Modeling Process

- Micro-service consumable on a cost-per-call basis or as a bespoke model
- New data sources are easily integrated

DATA SOURCES

Source: Document
- OCR data extraction
- Metadata extraction

Source: API's
- Direct from bank

PROCESS

DB

Classifier
Labels transactions

Analysis
Report details & stats

CONSUMERS

Credit scoring
Predicts possibility of defrauding

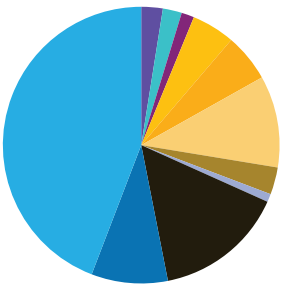
Affordability
Loan application processing

Fraud
Anomaly detection

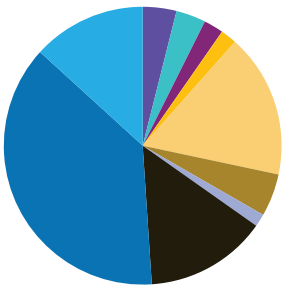
Anomaly Detection as Example

Knowing that the distribution of transaction categories follows a Zipfian distribution, a spending profile such as the one on the right, where cash withdrawals make up more of the total debits, may be flagged as suspicious.

Normal profile



Anomalous profile



Cellphone · Clothing · Fuel · Groceries · Insurance
Subscription · Utilities · Vehicle · Cash · Uncategorised

Automating affordability
Calculating the remainder of a client's money after paying necessary bills and obligations.

Understanding the spending behaviours
Learning from spending behaviour to accurately predict a client's probability of defaulting on a loan.

Defining the norm and detecting fraud
Modelling normal spending patterns and flagging a client too far removed from the norm.

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