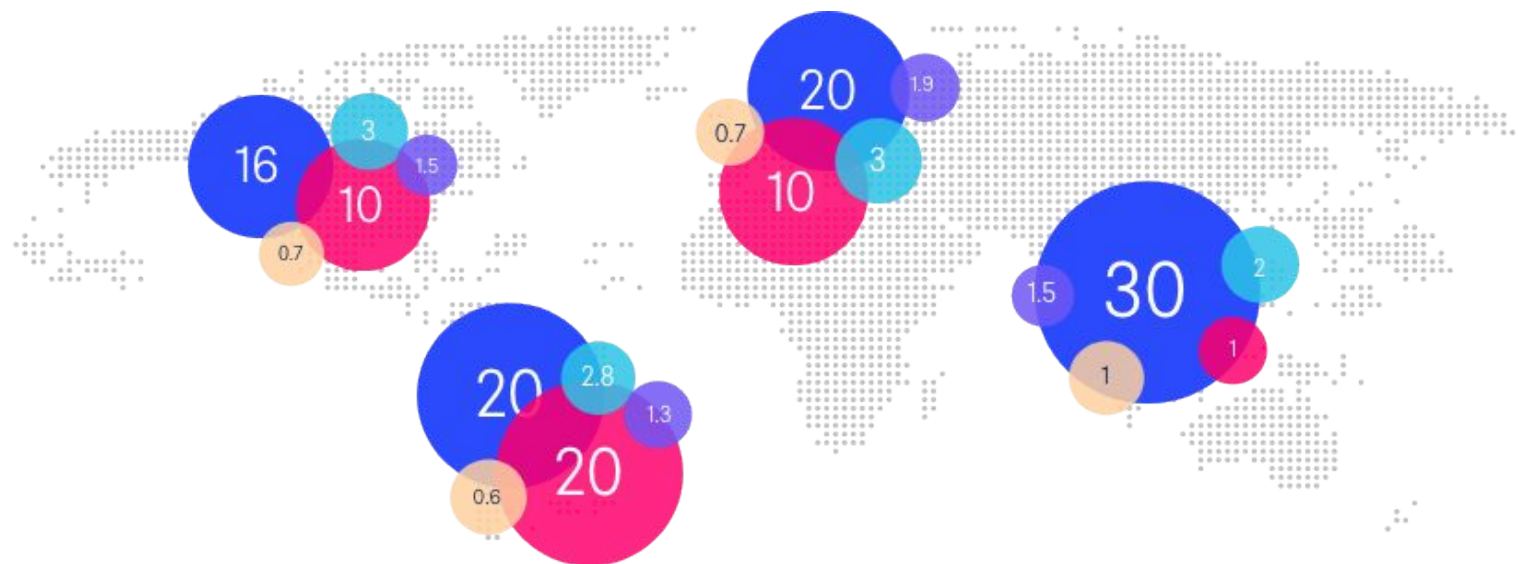




CREDIT CARD FRAUD DETECTION

QI RUI, JAYA PILLAI



Total % of revenue
lost to fraud

Prevented % due to
suspected fraud

Chargebacks as %
of revenue

% of orders manually
reviewed

% of reviewed
orders declined

METHODOLOGY



01

EDA

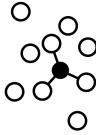
Exploring Data



02

SMOTE

Sampling &
Borderline



03

CLASSIFIER

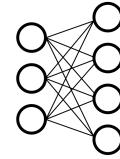
Classifying
models



04

STACKING

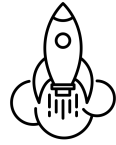
Multiple models



05

NEURAL
NETWORK

Keras/ ANN

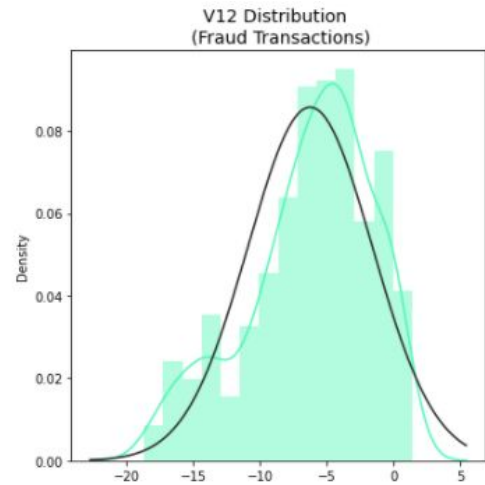
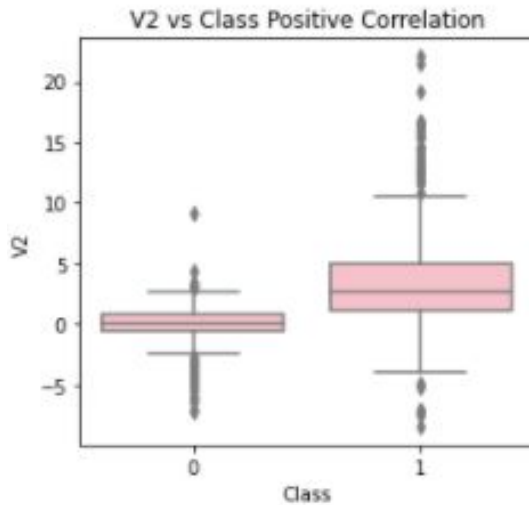
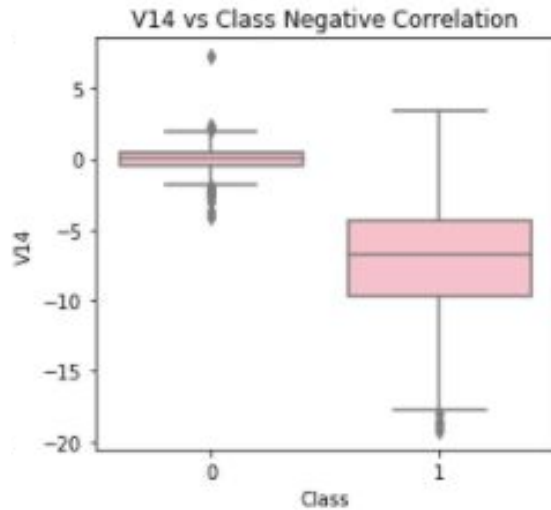


06

BOOSTING

Multiple models

THE DATASET



FINDINGS AND RESULTS

OVERFITTING & CROSS VALIDATION

Logistic Regression Cross Validation Score: 93.54%

Knears Neighbors Cross Validation Score 93.01%

Support Vector Classifier Cross Validation Score 93.67%

DecisionTree Classifier Cross Validation Score 91.43%

SUCCESS CRITERIA



TRUE POSITIVE

Percent Correct
Classification



ROC

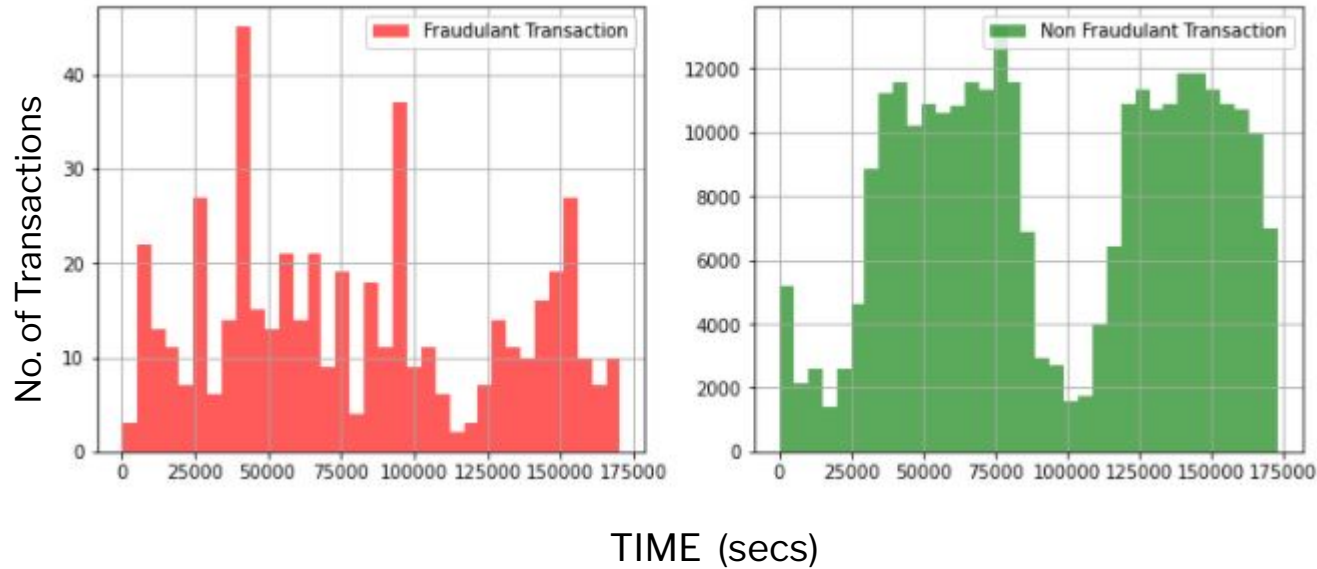
False Positive vs True
Positive



CLASSIFICATION

Lesser Imbalance

FINDINGS AND RESULTS



RECOMMENDATIONS



**IP
GEOLOCATION**



**BIOMETRICS
IDENTIFICATION**

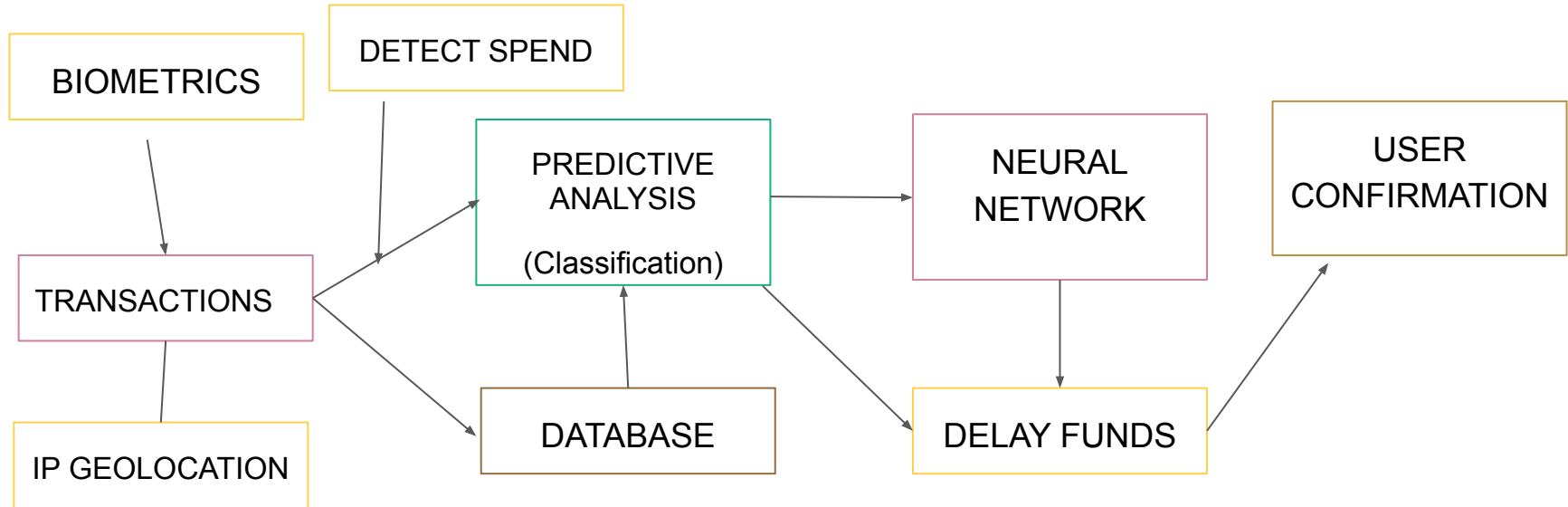


**DETECT
SPEND
AMOUNT**

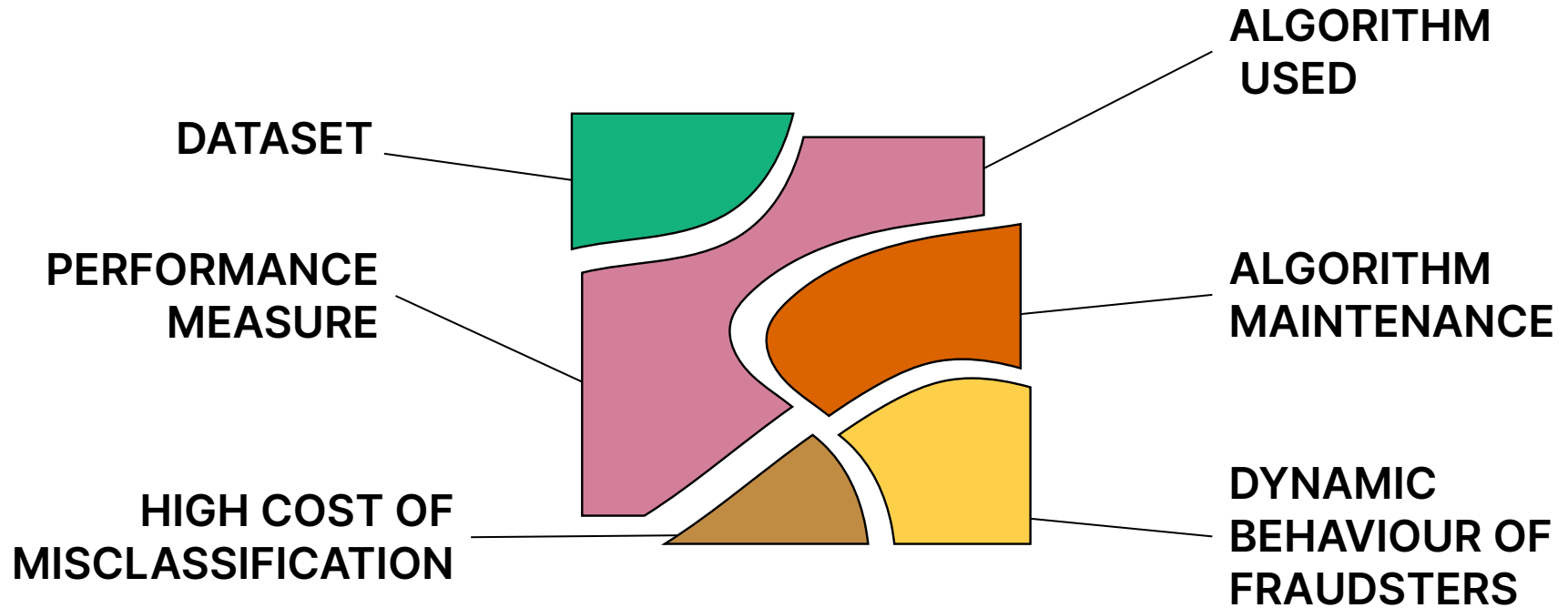


**DELAY FUNDS
TRANSFER**

BUSINESS FRAMEWORK



CHALLENGES



FUTURE STEPS

01

SUPERVISED & UNSUPERVISED MODELS

02

CLUSTERING METRIC

03

REAL TIME ANALYTICS

04

QUALITY DATA

05

USER BEHAVIOUR

06

PINPOINTING FRAUD TIMINGS

THANKS!



Questions?

CREDITS: This presentation template was created by **Slidesgo**, including icons by **The Noun Project**, and infographics & images by **Freepik**



Appendix

<https://thenounproject.com/search/?q=exploring+&i=3382694>

1. Exposure by Christopher T. Howlett from the Noun Project
2. Explore by Monkik from the Noun Project
3. k nearest Neighbours by sachin modgekar from the Noun Project
4. Stacking by Sachin Modgekar from the Noun Project
5. RBM by sachin modgekar from the Noun Project
6. Thumb scanning by Vectors Point from the Noun Project
7. Warning by myladkings from the Noun Project

Business Architecture

<https://wso2.com/whitepapers/fraud-detection-and-prevention-a-data-analytics-approach/>

<https://geotargetly.com/blog/can-credit-card-fraud-be-minimised-with-ip-geolocation>

<https://www.cardrates.com/advice/credit-card-fraud-statistics/>

<https://www.altexsoft.com/whitepapers/fraud-detection-how-machine-learning-systems-help-reveal-scams-in-fintech-healthcare-and-ecommerce/>