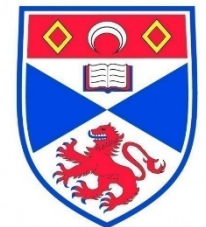


Modeling overdraft suitability with RBS

A real-world approach

Team Cerro
University of St Andrews



University
of
St Andrews

Background

KEY

How our project can align
to RBS core values



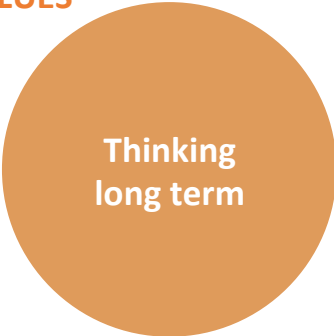
Allow quick and easy service: reduce
customer inputs needed – trim our
model through feature selection



Allow threshold adjustment for
consistency of risk preference
across departments - no silos

RBS
CORE VALUES

Black-box vs. White-box
Interpretability for customers on
acceptance or rejection



Low generalization error –
making good commercial
decisions

Limitations and Assumptions

How data is collected - what PASS means

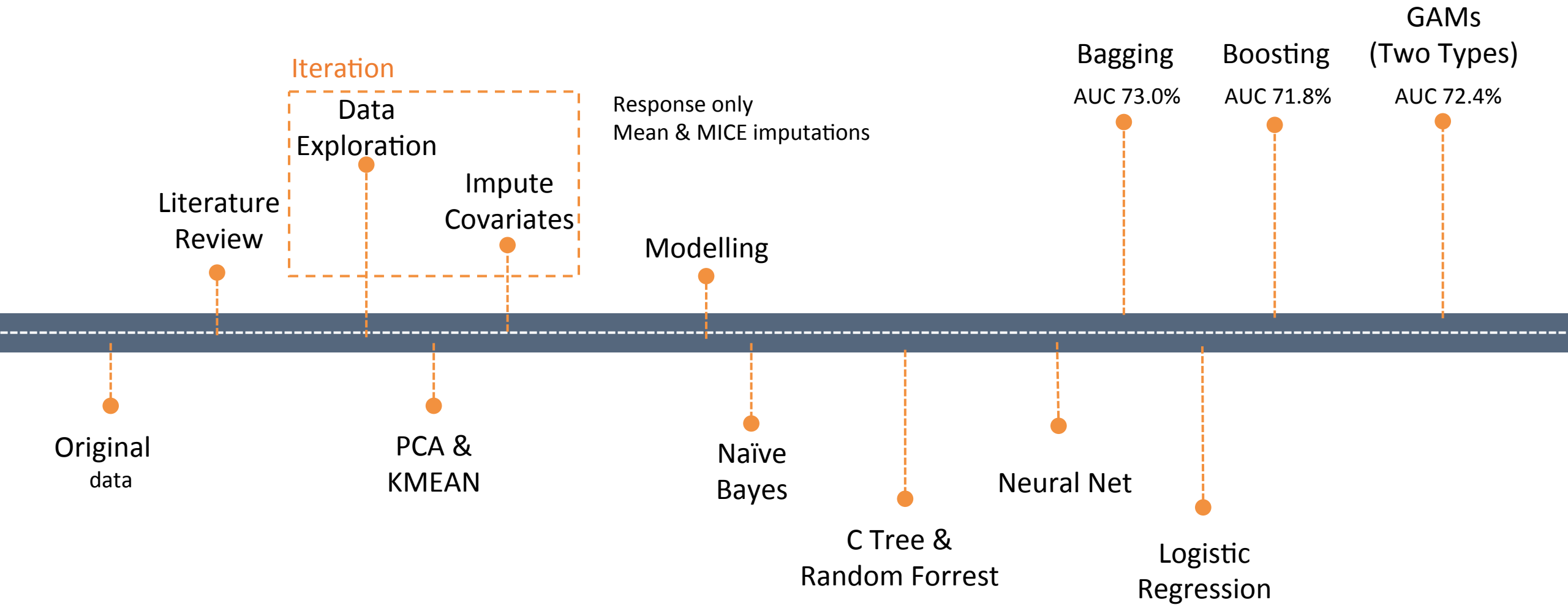
Product Specifications - Target Market

Variable meaning, missing values and imputation

Current RBS practices and risk appetite

Cost/Benefit of overdraft vs profit Bank risk appetite

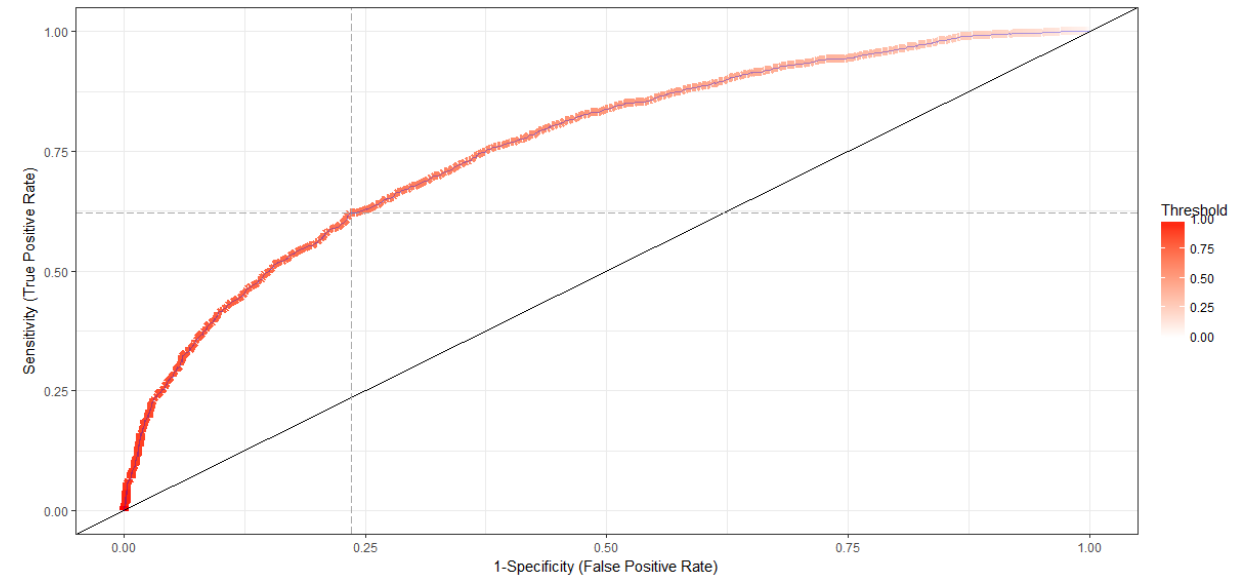
Approach



Results

Generalized Additive Models

- AUC: 72.4% (post-MICE)
- < Bagging (73.0%), but:
- White box
 - Providing feedback to customers
= “Doing the right thing”



Recommendations

Decide what to do with outliers

Reduce missing values

Sufficient data for each model point

Incorporate cost and risk appetite into model

Summary

Different Imputations do not make much difference

Insight Information is needed

GAMs performed well – AUC: 72.4% + white box

More data with less missing values

More sophisticated modeling including bank risk appetite