Group Report

Group Members

Due 19 April 2019

Points to think about:

- This should be brief, no more than 4 pages in total.

- There should be a very succinct executive summary at the start selling your method/results.

- What does your approach offer this type of business? Why should they part with a large consulting fee or licence your model? If you can argue a good Return On Investment (ROI) then you're in a good position. Feel free to speculate about costs associated with the different decisions implied. Also bear in mind this document is something of a sales pitch - it should look the part, not some dry analyst's report.

- You should also attempt to give some insight into what is driving the response.

- You have many variables at your disposal and the client would appreciate some insight into what characterises the targets. (Note this is where the client can give your model the "sniff-test" for anything suspicious - 'client-visible' problems).

Executive Summary

Introduction

Methods

- Maybe disucss method for carrying out best model in each aim
- Discuss estimation of accuracy

Analysis and Results

All analyses in the following report were carried out using R 3.5.1 software (R, 2019).

Predicting Party Represenation

We found that predicting the Party of each MP based on how they voted on the alternative Brexit options. The model Random Forest makes prediction that are closer to the original data than any other model we fit. Random Forests are classification models that output probabilities of outcomes, in order to support decision making. This Random Forest model can be expected to predict the correct Party of each MP 97.35% of the time. Table... shows that the Random Forest outperforms the prediction of other models we built. We are confident that this Random Forest model provides the best predictions possible for these data.

Model	Accuracy
Classification Tree	94.70%
Random Forest	97.35%
Logistic Regression	94.04%
Naive Bayes	78.15%
Support Vector Machines	94.04%
Neural Net	93.38%

[Table, Accuracy of each model]

Predicting Leave/Remain Percentage

Conclusions