**SCL Elections Modelling Task**

8th December 2014

SCL has won a contract from a consumer goods brand manager, ACME Industries, to model its existing consumer records management system and try to propose high-value targets to maximize the effectiveness of their targeted marketing.

We have purchased a large record of consumer data for the 2,000,000 customers provided by ACME, and an additional 500,000 records for potential future targets. These include various demographic details and also a selection of proprietary Consumer Expenditure models for each consumer.

1. The 2,000,000 records are provided in the file “modellingProjectTraining.txt”. Using any method you deem suitable, build a predictive model that takes the various datapoints provided for each consumer and predicts the ‘Consumer Value’ assigned by ACME Industries, which is a measure of the value of the customer to the company.
2. Use your model to predict the ‘Consumer Value’ of the 500,000 targets provided in the file “modellingProjectModelling.txt”. Try to determine how effective you expect your model to be at predicting values for out-of-sample data.
3. Finally, conduct some initial market analysis for the company of their customer base involving some visualization procedure for the data that can be presented alongside your results to help them better understand their customer base.

You may use any techniques and software that you choose for the tasks above. There is no time limit to this task and you may use any resources that you like. Your predicted scores should be provided as a semi-colon delimited text file containing a Costomer\_ID and a Predicted\_Customer\_Value on each. Your market analysis may be in any soft or hard format that you prefer.