**Prediction funding activities charity**

I used deep learning and neural networks to determine whether applicants could

receive funding from Alphabet Soup, which to date has funded over 34,000

organisations.

**Data processing**

Irrelevant information such as EINs and NAME. The remaining columns were used as model features. The NAME was added back in the second test. CLASSIFICATION and APPLICATION\_TYPE were replaced by 'Other' due to high fluctuation. The data were split into training and test data sets. The variable target variable for the model is "IS\_SUCCESSFUL" and it is validated with values, 1 means "yes" and 0 "no".

The analysis was performed on the APPLICATION data and the value of CLASSIFICATION was used to divide into groups. I used each unique value with several data points as a cut-off point to combine the categorical variables into a new 'Other' value. I then performed a test to see if the grouping was successful.

I encoded the variables using the function 'pd.get\_dummies().

**Model compilation, training and evaluation**

I used a neural network models with multiple layers, three to be exact. The number of features determined the number of hidden nodes.

Based on the three-layer training model, 477 parameters were generated. The first attempt resulted in a score of 73%, which was below the desired level of 75%. In contrast, the second result gave 80%.