**# Neural\_Network\_Charity\_Analysis**

1. **Overview of the analysis:** Explain the purpose of this analysis.

Create neural network model that is capable of predicting whether applicants will be successful if funded by Alphabet Soup.

1. **Results:** Using bulleted lists and images to support your answers, address the following questions.
   * *Data Preprocessing*
     + What variable(s) are considered the target(s) for your model?
       1. IS\_SUCCESSFUL
     + What variable(s) are considered to be the features for your model?
       1. APPLICATION\_TYPE, AFFLIATION, CLASSIFICATION, USE\_CASE, ORGANIZATION, STATUS, INCOME\_AMT, SPECIAL\_CONSIDERATIONS, ASK\_AMT
     + What variable(s) are neither targets nor features, and should be removed from the input data?
       1. EIN, NAME
   * *Compiling, Training, and Evaluating the Model*
     + How many neurons, layers, and activation functions did you select for your neural network model, and why?
       1. Neurons = 70, 40
       2. Layers = 2
       3. Activation function = reLu
     + Were you able to achieve the target model performance?
       1. No was unsuccessful at achieving target performance of 75% accuracy rate.
     + What steps did you take to try and increase model performance?
       1. Adjusted activation from reLu to Tanh
       2. Add additional layers
       3. Adjust epoch
2. **Summary:**

In closing the overall results of the deep learning model was unsuccessful. The model was able to predict 72% of the time based off the charity\_data.csv. Unfortunately, I was unable to meet the 75% accuracy target. I was curious if using Random Forest model would improve prediction rate. Sadly the results were similar, 72%. In short my recommendation would be to have additional data to hopefully increase the accuracy of the original model with reLu.