**Marvina’s Neural Network Model Report – Charity Model**

1. The purpose of this charity analysis is to predict which companies will use the AlphabetSoup funding the best. And what is the likelihood funding will make the business successful.

* Data Preprocessing
  + The target variable for my model was the column “IS\_SUCCESSFUL”
  + The feature variables for my model were all the columns except the “IS\_SUCCESSFUL” one?
  + If I were to re-preprocess my data and re-train and re-test my data, I would remove the USE-CASE, ORGANIZATION and STATUS columns from the input data because they weren’t targets and as features, I don’t believe they added any value to my overall analysis.
* Compiling, Training, and Evaluating the Model
  + I used 80 neurons for the first layer, 30 neurons for the second layer and only 1 neuron for the outer layer. For the first and second layers, I used the rectified linear RELU activation function because the data was positive.
  + I was not able to optimize my model to achieve a target predictive accuracy higher than 75% on my first attempt.
  + For my second attempt, I removed the additional columns mentioned from my dataset, since I had already determined they didn’t add any value. I also modified my input\_dim from 43 to 30 and my first and second layer neurons to 80 and 50. Oh yea, I also increased my cutoff amounts.
  + The predictive accuracy from my second attempt was lower than the first and still below 75%.
  + For my third and final attempt, I will not change anything from my second attempt except the activation function. I will use tanh instead of relu. Ok. No meaningful change to my predictive accuracy for attempt number three either.