**Overview** of the analysis:

The purpose of this analysis is to develop a data model that can help Alphabet Soup select the applicants for funding with the best changes of success in their ventures.

**Results**:

* During the data preprocessing,
  + One variable identified as the target for the model is the attribute: 'IS\_SUCCESSFUL'.
* Nine variables identified as the features for the model are the attributes: 'APPLICATION\_TYPE', 'AFFILIATION', 'CLASSIFICATION', 'USE\_CASE', 'ORGANIZATION', 'STATUS', 'INCOME\_AMT', 'SPECIAL\_CONSIDERATIONS', and 'ASK\_AMT;
* Two attributes (EIN and Name) were removed from the input data as they were considered irrelevant to either the target or features in the model.
* While compiling, training, and evaluating the model,
  + During the preprocessing data set, I ran KNN supervised model on the dataset and received 71% accuracy.
  + Then I set up a neural model
    1. Three layers, six neurons, and three activation functions were tried and tested for the neural network model. Linear activation was not included because the goal here is to predict a binary classifier value of “Yes” or “no”, not a target value.
    2. I tested several combinations and made a few attempts to optimize the model by adjusting hypermeters (such as adding a hidden layer, number of units included in each layer for training, number of training data set size, and so on) to train and test the model.

**Summary**:

In summary, Relu and Sigmoid combination are the most optimum model so far achieved with the best result of 72% accuracy rate. It is 3% below than the targeted 75% accuracy rate. I still want to recommend it for use. In the same time, to improve the model accuracy to successful rate prediction, we should also consider adding more data, such as adding back the irrelevant attribute of “Name” value I previously dropped off the dataset in the beginning of preprocessing, or adding new attribute if it’s identified.