***Report on Neural Network Model***

**Overview:**

The purpose of this analysis is to see how well a neural network model could be trained to predict and discover which applicants for funding through alphabet soup would have the highest chance of success.

**Results:**

**Data Preprocessing:**

1. The target variable of the model used was the IS\_SUCCESSFUL column of our initial data frame.
2. The rest of the prepared and cleaned data frame was used as our features to help train the model to make predictions.
3. Both the EIN and the NAME columns were removed as they provided no benefit to the training of our model.

**Compiling, Training, and Evaluating the Model:**

1. For this model I felt best to provide one base and 2 layers. The reason for this choice was because while creating a complex model the features and targets used for prediction were not complex subjects.
2. The model performed well and as expected. It was able to accurately predict on the initial test with 75% accuracy.
3. Attempted dropping outlier values or less occurring application types to see if model could improve accuracy with a more consistent testing set. Also tried to increase the number of hidden layer nodes to allow for deeper learning.

**Summary:**

After running multiple training regimens, the model was able to accurately predict at about 75%. A model with access to a larger data set as well as more integrated tools may be able to outperform the current model. With all the training and data in mind I do believe the model can still serve a useful purpose for the task at hand. Although it may not be at the desired accuracy level, with the model’s output being considered I do believe it can help make better informed decisions.