**Classification Model Analysis Report**

The purpose of this analysis was to develop a deep learning model using neural networks and nonprofit data along with my knowledge of machine learning and neural networks to create a binary classifier model that can predict whether applicants will be successful if funded by the nonprofit foundation Alphabet Soup. Ultimately we want the model that will pick the applicants with the best chance of success in their ventures The concepts or steps in this analysis include the preprocessing of data, compiling, training and evaluating the model and optimizing performance.

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**Data Preprocessing**

* The “IS\_SUCCESSFUL” Column is the target variable for this model, this is the number of applicants that are successful when funded.
* The features for this model include all columns except the target variable array for this model which is the “IS\_SUCCESSFUL” column. All the other columns represent the features for this model.
* The “EIN” and “Name” variables should be removed because they are generally not relevant to the analysis and are not labels nor features.

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

* The number of neurons in the neural network model was selected to improve accuracy and decrease loss.
* The number of layers, neurons, and other factors significantly effect the results and performance of this model, although the variance in different results or numeric factors is not considerably high at all.
* This model did not achieve my target model performance, I wanted my model to perform at a higher accuracy level and lower our loss and I was not able to accomplish those goals for this model.
* I made attempts to improve these issues by attempting several different variations of neurons and layers, only to find that my accuracy results were not changing significantly at all, despite my efforts.

**Summary**

This deep learning binary classification model did not perform quite as well as I expected to but it does present a potential model that could produce positive results and help Alphabet Soup Inc, predict successful venture candidates at a more accurate level.