**Alphabet Soup Analysis**

**Overview**

Alphabet Soup, a nonprofit foundation, seeks a tool that aids in identifying the most promising applicants for funding, maximizing their chances of success in their endeavors.

**Data Preprocessing**

These are the questions we are looking to address:

* What variable(s) are the target(s) for your model?
* What variable(s) are the features for your model?
* What variable(s) should be removed from the input data because they are neither targets nor features?

For preprocessing, we leveraged “IS\_SUCCESSFUL” as our target variable. For the first copy of the notebook, I removed “EIN” and “NAME” and the remaining values were my features. For the second copy of the notebook, I simply removed “EID” and the remaining values were my features. EIN is neither a target nor feature.

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

These are the questions we are looking to address:

* How many neurons, layers, and activation functions did you select for your neural network model, and why?
* Were you able to achieve the target model performance?
* What steps did you take in your attempts to increase model performance?

Please see below. due to the level of complexity and size of the dataset, three layers and the below “Output Shape” will show how many neurons are within the model. We used three activation functions – two “relu” and one “sigmoid.” Upon rerunning the model and not removing the “NAME” feature, I realized that my accuracy level had dropped from 73% to

60%.

A screenshot of a computer

Description automatically generated with low confidence

**Summary**

Overall, I was unable to achieve the 75% or greater accuracy level. However, my first model was really close with 73% accuracy. For a different model to achieve what Alphabet Soup is looking for, they could leverage different training datasets involving different features and also leverage different attributes within the different layers.