**Alphabet Soup Neural Network Report**

Overview

My assignment was to provide predictions on whether applicants would be successful if funded by the nonprofit foundation Alphabet Soup. Using data given by the foundation, I hoped to discover a positive answer on the success of the foundation.

Data Processing

Target variables within the model: **IS\_SUCCESSFUL**

Feature variables within the model: **APPLICATION\_TYPE, AFFILIATION, CLASSIFICATION, USE\_CASE, ORGANIZATION, STATUS, INCOME\_AMT, SPECIAL\_CONSIDERATIONS, ASK\_AMT**

Variables removed: **NAME** and **EIN**

Compiling, Training, and Evaluating the Model

3 Neurons were used.

3 layers were used, first, second and outer layers.

Relu, Sigmoid, and Tanh activation functions were used because a n accuracy over .70 was the only achievable outcome, so Tanh was used to see what outcomes would be possible.

The target mode performances were not reached across all 3 optimization tests.

Steps taken to increase the accuracy score:

* Incorporate Tanh as activation features within layers.
* Use high and low numbers of layer’s shape.
* Remove scaler (This lowered the score to the near .50s).
* Increase the number of epochs.