Overview
Deep learning and neural networks were used to determine if applicants would be successfully funded by Alphabet Soup, who previously funded over 34,000 organizations.

Data Processing
The dataset removed any irrelevant information; therefore, EIN and NAME were dropped from the model. The remaining columns were considered features for the model. Although NAME was added back in the second test. CLASSIFICATION and APPLICATION_TYPE was replaced with 'Other due to high fluctuation. The data was split into training and testing sets of data. The target variable for the model is "IS_SUCCESSFUL" and is verified by the value, 1 was considered yes and 0 was no. APPLICATION data was analyzed, and CLASSIFICATION's value was used for binning. Each unique value used several data points as a cutoff point to bin "rare" categorical variables together in a new value, 'Other'. After that, I verified if binning was successful. Categorical variables were encoded by 'pd.get_dummies()'.

Compiling, Training, and Evaluating the Model
Neural Network was applied on each model layer (3 total). The number of features dictated the number of hidden nodes.

The three layer training model generated 477 parameters but the accuracy was below the 75% desired outcome.

Optimization
For the second attempt, I left 'NAME' in the dataset. This generated an accuracy of over 78% which satisfied the 75% accuracy desired outcome.

Recommendation For a Better Model
There are multiple other layers that could be added to this model to improve its accuracy. We could create models that are more specific to each organization's income level (INCOME_AMT) and compare it to the amount the organization asked for (ASK_AMT) to determine if that has an impact on success.