1. **Overview**

The reason for the analysis is to create a neural network that can predict the success of applicants funded by the charity organization, Alphabet Soup.

1. **Results**:

* Data Preprocessing
  + What variable(s) are the target(s) for your model?

IS\_SUCCESSFUL

* + What variable(s) are the features for your model?

all other columns in the dataset

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

What should be removed: "EIN" because it isn't a useful identifier

* Compiling, Training, and Evaluating the Model
  + How many neurons, layers, and activation functions did you select for your neural network model, and why?

There are five hidden layers, each with num\_features \*2neurons. Doubling the number of neurons in the hidden layers num\_features \*2 provides the model with more capacity to learn intricate relationships in the data. However, this choice should be made cautiously to prevent overfitting

A screen shot of a computer code

Description automatically generated

* + Were you able to achieve the target model performance?

No, I was not able to achieve the target model performance

A screenshot of a computer code

Description automatically generated

* + What steps did you take in your attempts to increase model performance?

Some of the things I tried were changing the number of features, fewer neurons, and more internal layers

1. **Summary**: Summarize the overall results of the deep learning model. Include a recommendation for how a different model could solve this classification problem, and then explain your recommendation.

The deep learning model demonstrated moderate performance, achieving a loss of around 0.5703 and an accuracy of approximately 72.56% on the test dataset. Considering the potential for categories with low counts, it's advisable to investigate the incorporation of "NAME" for binning purposes to effectively handle such scenarios.

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