Step 4 Report

1. Overview

This analysis is attempting to determine whether applicants will be successful if funded by Alphabet Soup, our nonprofit for this dataset. Our output is a binary classification- successful or not. Our dataset contains 34,000 individual listings and their metadata- identification, application type, affiliated sectors, government classification, etc.

2. Results

* We are taking a deeper look at the “APPLICATION\_TYPE” and “CLASSIFICATION” variables
* Our “IS\_SUCCESSFUL” variable is the feature of our model
* We dropped “EIN” AND “NAME”, as they contained label data that was not relevant
* We used three layers, two unique types of activation functions, and approximately 250 neurons. This is a relatively small and simple NN that will give us a good approximation of the performance of a deeper or wider NN. If the performance on this model is adequate, relative to the decision tree, then it makes sense to try to dial in the performance of the architecture.
* Please clarify what target model performance was requested in the instructions.
* Steps to increase model performance were adding more layers, using two activation functions, and running for many epochs.

3. Summary

268/268 - 0s - loss: 0.5618 - accuracy: 0.7238 - 459ms/epoch - 2ms/step

Loss: 0.5617585182189941, Accuracy: 0.7238484025001526

Our model achieves a 73% in the training data and 72% in the testing data- not an ideal result. We could add more parameters to our model, which would increase complexity but potentially display more patterns in the data.