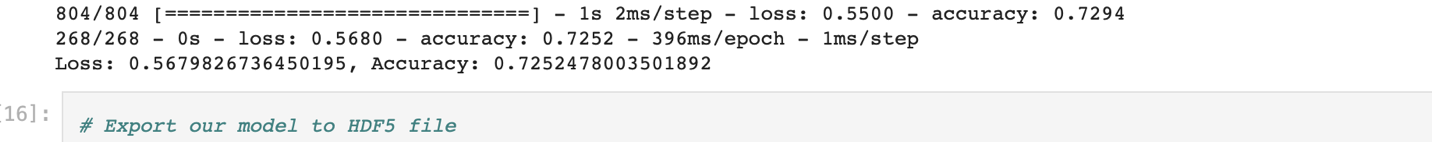
Deep Learning Challenge Report

1. **Overview** of the analysis: The nonprofit organization Alphabet Soup is seeking a tool to assist in selecting funding applicants who have the highest likelihood of success in their projects. This analysis aims to pinpoint the targets, features, and hyperparameters that will create the most effective model for achieving this objective.

* **Results**:
  + Data Preprocessing
    - What variable(s) are the target(s) for your model?
      * “is\_successful”
    - What variable(s) are the features for your model?
      * Application Type
      * Affiliation
      * Classification
      * Organization
      * Status
      * Income\_AMT
      * Special\_Considerations
      * Ask\_AMT
    - What variable(s) should be removed from the input data because they are neither targets nor features?
      * I removed EIN and Name because they were identical columns as well as USE\_CASE because it didn’t seem necessary.
  + Compiling, Training, and Evaluating the Model
    - How many neurons, layers, and activation functions did you select for your neural network model, and why?
      * in my most successful attempt I had 2 hidden layers and 3 activation functions, but I increased the number of epochs from 100 to 150, I did this for experimental purposes to try and increase the range and accuracy of the model
    - A screenshot of a computer program

      Description automatically generated
    - Unfortunately I was unable to achieve the targeted performance.
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    - The steps I took to increase the model performance were:
  + Attempt 1: Dropping more or fewer columns, creating more bins for rare occurrences in columns
  + Attempt 2: Add more neurons to a hidden layer, add more hidden layers
  + Attempt 3: Use different activation functions for the hidden layers, add or reduce the number of epochs to the training regimen

1. **Summary**: Based on the accuracy score of my best model, I would not recommend my model. Based on attempts two and three, adding layers, functions, and epochs are contributors to accuracy. However Further testing, exploration, and evaluation is needed to increase my models accuracy. I was only able to achieve 72.5% accuracy not 75%.