**Report on the Neural Network Model**

1. **Overview** of the analysis: Explain the purpose of this analysis.
   1. **Help the nonprofit Alphabet Soup select applicants for funding with the best chance of success in their ventures. Using machine learning I am charged with building a model to help with identifying those applicants with the highest success to choose from for funding.**

* 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
    - USE\_CASE
    - 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?
    - EIN
    - NAME
* Compiling, Training, and Evaluating the Model
  + How many neurons, layers, and activation functions did you select for your neural network model, and why?
    - A screenshot of a computer program

      Description automatically generatedI selected 3 hidden layers with activation features to help improve the accuracy of my model after to first run with 2 layers, 25 neurons. This was due to a low starting accuracy score.
  + Were you able to achieve the target model performance?
    - No, I was able to hit an accuracy of 72.9%
  + What steps did you take in your attempts to increase model performance?
    - Ran the model with 2 hidden layers and 25 neurons to start.
    - Attempts 2-6, increase to neurons, then increased hidden layers with neurons to help get closer to the 75% accuracy score.

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.
   1. **Overall, the results for the model created were below target of 75%**. Even achieving the target score of 75% I would recommend a target score of 90% to ensure the model is fit for use with the nonprofit group.
   2. **I would recommend using a Logistic Regression model and compare the results to the neural network model and remove some features in order to help improve the accuracy of the model(s)**