Overview of the analysis: Explain the purpose of this analysis.

Results

Data Preprocessing

What variable(s) are the target(s) for your model?

- The target variable for the model is ‘IS_SUCCESSFUL’.

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

- Features for the model include ‘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?

- The variables 'EIN' and 'NAME' should be removed from the input data as they are neither targets nor features.

Compiling, Training, and Evaluating the Model

How many neurons, layers, and activation functions did you select for your neural network model, and why?

- The neural network model has 2 hidden layers with 14 and 7neurons. I chose this approach because it was consistent with the class material and was proven to be an effective approach in that respect.

Were you able to achieve the target model performance?

- I was unable to achieve the target model performance.

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

- The deep learning model achieved an accuracy of approximately 74%. To improve this classification problem, a different model like a Random Forest Classifier could be considered due to its ability to handle complex relationships in data without overfitting. Random Forest models are robust and can provide good accuracy without extensive hard coding. In conclusion, I ws unable to achieve the target model performance of 75%, but achieved 74%, which was consistent with that of my peers.