OVERVIEW: The purpose of this analysis was to create a model that identifies how successful the funding was of certain applications that were submitted to the charity. The main objective of this analysis was to identify the main principals of successful applications for decision making in the future.

RESULTS:

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

  The variable that is the targets for my model is the 'IS_SUCCESSFUL' column.

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

  The variable that are the features are Application type, affiliation, classification, use case, organization, status, income amount, special considerations, and ask amount.

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

  EIN and Name.

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

  One input layer to match the feature number, one output layer with 1 neuron, there were two hidden layers with 80 and 30 neurons and relu activation layer was used for its reliability and effectiveness.

- Were you able to achieve the target model performance?

  No, I was not able to get above 75% accuracy.

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

  I made an adjustment to the layers and neurons (adding a third hidden layer).

SUMMARY:

This deep learning model provided many useful insights for what aids in the success of funding campaigns. Improvements that could be made would be using other models such as Logistic Regression, Ensemble Learning, and random forest classifier. For instance, with random forest classifier, it handles structured data well and extensive tuning is not necessary.