**Neural Network Model Report**

1. **Overview** of the analysis:

**This module showed how deep learning models can predict data and in this instance showing if the charities will be profitable in fundraising efforts**

* **Results**:
* Data Preprocessing
  + The variable target for the model was “IS\_Successful”
* Variable that are features of my model are APPLICATION\_TYPE,AFFILIATION,CLASSIFICATION, INCOME\_AMT, ASK\_AMT, IS\_SUCCESSFUL
* What variable(s) should be removed from the input data because they are neither targets nor features?
  + 'EIN','USE\_CASE','NAME','ORGANIZATION','EIN','SPECIAL\_CONSIDERATIONS','STATUS'

A screenshot of a computer

Description automatically generated

* Compiling, Training, and Evaluating the Model
  + For the neural network model selected I selected 50 and 30 neurons, 2 layers, and 2 different activation fucntctions, I came to this conclusion after adding a third layer, playing with the different neurons after dropping and before and the current data is what became best
  + Were you able to achieve the target model performance? I was not, I tried many different variables and variations and could not get 75%
  + What steps did you take in your attempts to increase model performance? I added layers, tried neurons from 100-10, used selu activation, dropped columns and added back in the EIN and Names, and did variances of 100-10 of the epoch
  + A screen shot of a computer program

    Description automatically generated

1. **Summary**: Overall I think 72% isn’t great, so I would not recommend this model, I think the data needs to be in a different format or combination of multiple models, I think there is room for improvement in this model and may need more params that I was limited in achieving