

Report on the Analysis Alphabet Soup Charity:

Display Correction:

```
804/804 [=====] - 1s 2ms/step - loss: 0.5349 - accuracy: 0.7404
Epoch 93/100
804/804 [=====] - 2s 2ms/step - loss: 0.5349 - accuracy: 0.7395
Epoch 94/100
804/804 [=====] - 1s 2ms/step - loss: 0.5348 - accuracy: 0.7400
Epoch 95/100
804/804 [=====] - 1s 2ms/step - loss: 0.5349 - accuracy: 0.7405
Epoch 96/100
804/804 [=====] - 2s 2ms/step - loss: 0.5350 - accuracy: 0.7396
Epoch 97/100
804/804 [=====] - 2s 2ms/step - loss: 0.5350 - accuracy: 0.7397
Epoch 98/100
804/804 [=====] - 2s 2ms/step - loss: 0.5346 - accuracy: 0.7398
Epoch 99/100
804/804 [=====] - 1s 2ms/step - loss: 0.5350 - accuracy: 0.7390
Epoch 100/100
804/804 [=====] - 1s 2ms/step - loss: 0.5343 - accuracy: 0.7394
```

Purpose of the analysis:

Purpose of this analysis is to develop a deep learning model using a neural network to predict the success of charitable donations for Alphabet Soup. This is an organization that provides funding to other various charities. The goal is to create a model that can accurately classify whether or not a donation will be successful based on the provided features.

Results Section Analysis:

Data Preprocessing:

1. What variable(s) are the target(s) for your model?
 - Target variable for the model is the "IS_SUCCESSFUL" column. This tell us whether a donation was successful or not.
2. What variable(s) are the features for your model?
 - There are columns from the dataset provide information about the charities and the donations, which features the models.
3. What variable(s) should be removed from the input data because they are neither targets nor features?

- The 2 columns "EIN" and "NAME" are removed from the input data because they are not relevant as features and are not needed for the prediction.

Compiling, Training, and Evaluating the Model:

1. How many neurons, layers, and activation functions did you select for your neural network model, and why?
 - I selected 4 layers for the network models, I think it will filter more things and make the accuracy higher.
2. Were you able to achieve the target model performance?
 - No, It reached to 74.3%, almost 75%.
3. What steps did you take in your attempts to increase model performance?
 - I added more layers, use a different activation functions and add more epochs. I was able to improve original performance 73.9% to 74.3%.

Summary:

The deep learning model developed using a neural network for Alphabet Soup charity showed varying results depending on the specific optimization attempts made. The original accuracy result is 73.9% but after optimization it become 74.3%.

Different model to solve the same problem:

To improve the predicting result, we could use a different approach which involves exploring other machine learning algorithms such as random forests, gradient boosting, or support vector machines. These algorithms can handle complex classification tasks and may provide different perspectives and insights into the data.