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# Alphabet Soup Neural Network Model

**Overview**:

Using more than 34,000 organizations that have received funding from Alphabet Soup over the years, we created a binary classifier that can predict whether applicants will be successful if funded.

**Results**:

- Data Preprocessing

Get rid of any unnecessary data, find out the amount of unique values, and create a list to be replaced after determining the cutoff. Convert the data to numerical data and split it into training and testing.

- Compiling, Training, and Evaluating the Model

Define and create the layers for the model. Afterwards, Compile and trained the model with 100 epochs.

```
Model: "sequential"
_________________________________________________________________
 Layer (type)                Output Shape              Param #
=================================================================
 dense (Dense)               (None, 7)                 315

 dense_1 (Dense)             (None, 14)                112

 dense_2 (Dense)             (None, 1)                 15

=================================================================
Total params: 442 (1.73 KB)
Trainable params: 442 (1.73 KB)
Non-trainable params: 0 (0.00 Byte)
_________________________________________________________________
```

**Summary**:

- In summary, after processing the data, compiling, training, and evaluating the model, we can see that it achieved an accuracy of 73% or 0.725.

```
268/268 - 1s - loss: 0.5569 - accuracy: 0.7252 - 717ms/epoch - 3ms/step
Loss: 0.5569075345993042, Accuracy: 0.7252478003501892
```