This exercise is to predict whether applicants for funding from Alphabet Soup will be successful or not based on the observed data that containing more than 34000 organizations that have applied funding from Alphabet Soup over the years. The target variable is “IS\_SUCCESSFUL”. The identification column such as “EIN” and “NAME” was removed before training the model. The rest of columns are features for model. We chose Keras to build a neural network model. The trained model is going to use for determining the successful of future projects that are going to apply for Alphabet Soup funding.

As entry point, 2 layers, 8 neutrons in the first layer, and 5 neutrons in the second layer were use, and “relu” serves the activation function. The reason for this model setting is mainly consider the compute speed. To optimize model to achieve the target accuracy, the following methods were tried:

1. Increased the bins of the “CLASSIFICATION” and “APPLICATION\_TYPE”, target is not achieved;
2. Add additional three neutrons in each layer, target is not achieved.
3. Auto search by choosing number of layers and number of neutrons, search among activation functions, the best model is saved, but target is not achieved.