

Neural Network Project – Intelligent Bartender

For my neural networks project, I propose to make an intelligent bartender that will decide if certain ingredients will mix to create a decent drink. The input vector to the neural network will be composed of ingredient data from actual cocktails where each value will correspond to the amount (in oz) of each ingredient. For example, a vector of the ingredients could be [vodka rum gin coke tonic lime]. A gin and tonic would then have an input vector of [0.0 0.0 2.0 0.0 5.0 0.5].

The desired values for each cocktail could be based on the cocktail's rating. Ratings for drinks can be found on certain sites, such as www.drinknation.com and www.webtender.com. At Webtender, the gin and tonic recipe above received a rating of 6.2, which would be the d for the drink.

After training the neural network, a user should be able to input a drink's ingredients and have the network respond with either a numerical rating for the drink or a binary classification. One risk for this project is how accurate to have a wide range of desireds, as well as reliable data since a drink can be mixed many different ways. One way I can assure that I have a large spread of desired values is to normalize all of the training desireds. Thus, if all of the cocktail ratings are between a certain range (such as 5.0 and 8.0) I will normalize the data so that the lower half of the data will be classified as undesirable and the upper half will be desirable.