Ami Ashman

Introduction to AI in Python

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Studying Two Solvers

In this project, I was presented with many different and varying classification algorithms. I’ve chosen to compare and contrast the Multiclass Neural Network and the Multiclass Decision Forest.

The Multiclass Neural Network (hereafter MNN) is a highly accurate classifier. It harnesses neural networks to build upon mathematical operators to establish a best-estimate prediction of what class a given data value is in. However, the MNN requires lots of training data to ensure accurate predictions, contributing to a lengthy training time. In case of our project with the cuisines, a MNN would be a little overkill. This is because we’re running local Jupyter notebooks with a small and simple dataset, a complex neural network is too heavy of an operation.

The Multiclass Decision Forest (MDF) is simple to the MNN is its high accuracy but has the added advantage of shorter training times. However, while the neural network is suited for prediction distinct classes, commonly through outputting numeral data, the MDF is designed for non-parametric tasks such as ranking or listing. Therefore, the MNN should be used when one wants to split up data into classes, and use a MDF to order those classes.