

Nick Wurzer
V00958568
Seng474

Assignment 1 Report

For the decision tree I chose to use entropy for the splitting criteria, which was arbitrary since I did not experiment with the splitting criteria. I conducted two experiments, one testing how the number of training examples affect the accuracy of the model (Figure 1) and another which tested how the alpha value affected the accuracy of the model (Figure 2). I initially conducted the first experiment without an alpha value which gave mixed results since the accuracy on the training data was very high (Figure 3). I then reread the assignment where I found that I should run my first experiment with an appropriate alpha value. The alpha value I chose was 0.00097321. This alpha value was chosen because it yielded high accuracy in my second experiment. The alpha value was small enough that the decision tree was sufficiently complex to be accurate and large enough that the decision tree did not over-fit the training data.

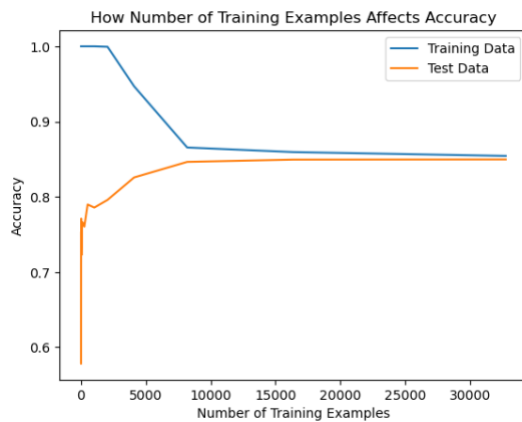


Figure 1

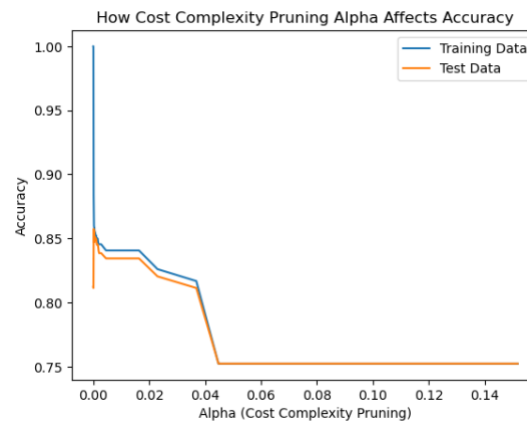


Figure 2

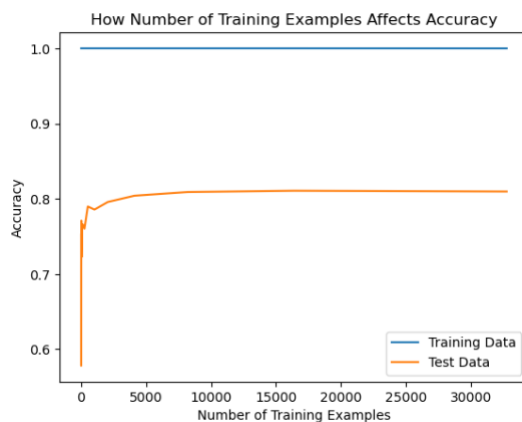


Figure 3

Unfortunately, I did not finish the other parts of this assignment.