

Assignment 2 Bonus

This report shows the comparison of performance on test dataset of tree constructed using the selection of random attribute as compared to one constructed using the ID3 algorithm.

Tree Parameters:

	Average Depth	Number of Nodes
Tree constructed using ID3	8.50	285
Tree constructed using random attribute selection	7.72	1081

Accuracy on Test Data:

Run #	Accuracy of tree constructed using random attribute selection
1	59.66
2	57.33
3	56.83
4	66.00
5	56.99

Accuracy of the tree constructed using ID3: 72.33

Number of training instances = 600
Number of training attributes = 20
Total number of nodes in the tree = 285
Total number of leaf nodes in the tree = 143.0
Accuracy of the model on the training dataset = 99.83

Number of validation instances = 600
Number of validation attributes = 20
Accuracy of the model on the validation dataset = 77.16

Number of testing instances = 600
Number of testing attributes = 20
Accuracy of the model on the testing dataset = 72.33

*Results are drawn from dataset2.