CS 6375

ASSIGNMENT \_\_\_\_\_\_bonus\_\_\_\_\_\_

Names of students in your group:

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Number of free late days used: \_\_\_\_\_\_\_\_\_0\_\_\_\_\_\_\_\_\_\_\_   
Note: You are allowed a **total** of 4 free late days for the **entire semester**. You can use at most 2 for each assignment. After that, there will be a penalty of 10% for each late day.

Please list clearly all the sources/references that you have used in this assignment.

**Tree Parameters:**

Datasets: training\_set.csv. validation\_set.csv and test\_set.csv

|  |  |  |
| --- | --- | --- |
|  | **Average Depth** | **Number of Nodes** |
| **Tree constructed using ID3** | 7.22464 | 274 |
| **Tree constructed using random attribute selection** | 7.95291 | 720 |

**Accuracy with random selection:**

Datasets: training\_set.csv. validation\_set.csv and test\_set.csv

|  |  |  |  |
| --- | --- | --- | --- |
| **Run** | **Accuracy of tree constructed using random attribute selection** | | |
|  | **Training data** | **Validation data** | **Test Data** |
| **1** | 88.5 | 54.5 | 53.65 |
| **2** | 87.33 | 66.9 | 67.3 |
| **3** | 86.666 | 59.45 | 58.4 |
| **4** | 88 | 65.7 | 66.9 |
| **5** | 87.5 | 56.35 | 56.15 |

**Accuracy with ID3:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Run** | **Accuracy of tree constructed using random attribute selection** | | |
|  | **Training data** | **Validation data** | **Testing data** |
|  | 100 | 75.9 | 75.85 |