**Assignment-2**

**Machine Learning**

**Team Members**

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|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Algorithm | Accuracy | Error | Precision | Recall | F-measure | Time taken |
| ID3 | 77.9% | 22.06% | 0.558 | 0.0957 | 0.1634 | 4317 msec. |
| REDUCE ERROR PRUNING | 79.81% | 20.19% | 0.62 | 0.098 | 0.1692 | 6525msec. |
| RANDOM FOREST | 82.04% | 17.95% | 0.73 | 0.109 | 0.189 | 1878msec. |

It is an established fact that decision trees learnt using ID3 tends to overfit to the training data. One of the ways to overcome overfitting is Reduced Error Pruning.

Though pruning can improve accuracy, one of the better ways to avoid overfitting is to construct Random Forests.

Examples where ID3 can be used->

Examples where Reduce Error Pruning can be used->

Examples where Random Forest can be used->