**Machine Learning Class**

**Project 2**

**Experiment Results**

**Decision Tree**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Criterion** | **Max Depth** | **Accuracy** | **Precision** | **Recall** | **F1** |
| gini | 3 | 0.89 | 0.94 | 0.88 | 0.91 |
| gini | 4 | 0.9 | 0.93 | 0.91 | 0.92 |
| gini | 5 | 0.91 | 0.94 | 0.91 | 0.93 |
| gini | 6 | 0.89 | 0.95 | 0.87 | 0.91 |
| gini | 7 | 0.89 | 0.95 | 0.87 | 0.91 |
| entropy | 3 | 0.88 | 0.93 | 0.88 | 0.9 |
| entropy | 4 | 0.87 | 0.92 | 0.88 | 0.9 |
| entropy | 5 | 0.9 | 0.93 | 0.91 | 0.92 |
| entropy | 6 | 0.9 | 0.93 | 0.9 | 0.92 |
| entropy | 7 | 0.92 | 0.94 | 0.92 | 0.93 |

**Random Forest**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Criterion** | **Number of Estimators** | **Accuracy** | **Precision** | **Recall** | **F1** |
| gini | 1 | 0.88 | 0.94 | 0.87 | 0.9 |
| gini | 2 | 0.9 | 0.94 | 0.9 | 0.92 |
| gini | 3 | 0.94 | 0.97 | 0.93 | 0.95 |
| gini | 4 | 0.91 | 0.92 | 0.93 | 0.93 |
| gini | 5 | 0.92 | 0.92 | 0.94 | 0.93 |
| entropy | 1 | 0.9 | 0.94 | 0.9 | 0.92 |
| entropy | 2 | 0.92 | 0.92 | 0.96 | 0.94 |
| entropy | 3 | 0.93 | 0.94 | 0.94 | 0.94 |
| entropy | 4 | 0.93 | 0.94 | 0.94 | 0.94 |
| entropy | 5 | 0.93 | 0.93 | 0.96 | 0.95 |