A picture containing scale, device

Description automatically generatedDiagram

Description automatically generated1 - Output of Tree Visualisation Function

Figure 1: Overview of decision tree model

Figure 2: Close up view of decision tree root

2 - Step 3: Evaluation

2.1: 10-fold Cross validation classification metrics

The following cross validation classification metrics for both “*clean\_dataset.txt*” and “*noisy\_dataset.txt*” are computed by setting the random generator ‘*default\_rng’* seed to 1.

**Clean dataset cross validation metrics:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Room 1** | **Room 2** | **Room 3** | **Room 4** |
| **Recall** | 0.9901636 | 0.96377194 | 0.94159255 | 0.98843557 |
| **Precision** | 0.98456172 | 0.95374561 | 0.9569425 | 0.9890728 |
| **F1-score** | 0.98730466 | 0.95853483 | 0.9489405 | 0.98868429 |
| **Accuracy** | 0.9715 | | | |

**Noisy dataset cross validation metrics:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Room 1** | **Room 2** | **Room 3** | **Room 4** |
| **Recall** | 0.77318748 | 0.8369007 | 0.80838118 | 0.7912654 |
| **Precision** | 0.78632045 | 0.81784804 | 0.8048417 | 0.80791971 |
| **F1-score** | 0.77807946 | 0.82599303 | 0.80424084 | 0.79717479 |
| **Accuracy** | 0.804 | | | |