A diagram of a tree confusion matrix

Description automatically generatedA diagram of different colored squares

Description automatically generated

A diagram of different colored squares

Description automatically generatedA graph of different colored squares

Description automatically generated

A diagram of a graph

Description automatically generated with medium confidence

Precision: The average precision for DT, GBT, and RF is 100% for all classes, while for MLP it is 42.86% and for SVM it is also 100%.

Recall: The average recall for DT, GBT, and RF is 100% for all classes, while for MLP it is 66.67% and for SVM it is also 100%.

F-measure: The average F1-score for DT, GBT, and RF is 100% for all classes, while for MLP it is 48.15% and for SVM it is also 100%.

Our primary aim is to achieve the highest accuracy and balanced performance across metrics. Therefore, Decision Tree (DT), Gradient Boosting Tree (GBT), Random Forest (RF), and Support Vector Machine (SVM) are all excellent choices, as they all perform equally well in this dataset. Multi-layer Perceptron (MLP) is less effective based on these metrics, especially given its much lower accuracy and F-measure.