**Classification Model Performance Report**

The report evaluates different classification models by testing their effectiveness on the Breast Cancer dataset. Training occurred on 75% of the data while testing used the remaining 25% with evaluation based on accuracy scores and confusion matrices. Among all classifiers tested the Naïve Bayes model reached the highest accuracy score of 96.49% but the Random Forest model exhibited the worst performance with an accuracy of 92.98%. The table below summarizes the results:

*Table1*

|  |  |  |
| --- | --- | --- |
| **Model** | **Accuracy** | **Confusion Matrix** |
| Logistic Regression | 0.9532 | [[102 1] [ 7 61]] |
| KNN | 0.9474 | [[102 1] [ 8 60]] |
| Linear SVM | 0.9532 | [[102 1] [ 7 61]] |
| Kernel SVM | 0.9474 | [[101 2] [ 7 61]] |
| Naïve Bayes | 0.9649 | [[100 3] [ 3 65]] |
| Decision Tree | 0.9415 | [[101 2] [ 8 60]] |
| Random Forest | 0.9298 | [[102 1] [ 11 57]] |
| XGBoost | 0.9532 | [[102 1] [ 7 61]] |