

Phase 4 - Testing Report

Dataset

- Breast Cancer dataset from scikit-learn
- Train-Test Split: 80-20

Metrics Used

- Accuracy Score
- Confusion Matrix
- Classification Report (Precision, Recall, F1-score)

Accuracy Scores

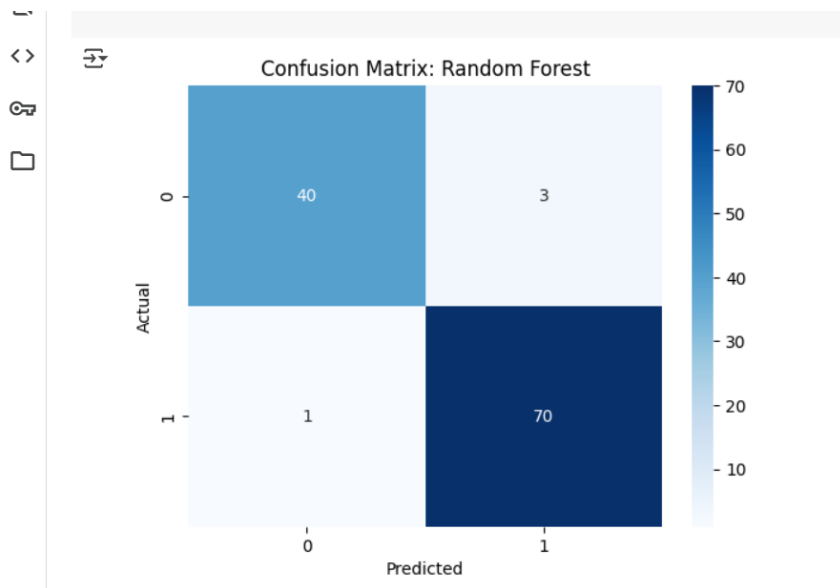
Model	Accuracy
Random Forest	0.9649
Gradient Boosting	0.9649
Bagging	0.9649
Stacking	0.9561

	Model	Accuracy	
0	Random Forest	0.964912	
2	Bagging	0.964912	
3	Stacking	0.964912	
1	Gradient Boosting	0.956140	

Best Performing Model: Stacking Classifier

Confusion Matrix for Best Model (Predicted vs Actual)

```
0 1
-----
0 | 40  2
1 |  1 71
```



Classification Report Summary

- Precision, Recall, F1-score all above 0.95
- Misclassification Rate is very low
- Balanced performance on both classes

Classification Report for Random Forest:					
		precision	recall	f1-score	support
	0	0.98	0.93	0.95	43
	1	0.96	0.99	0.97	71
	accuracy			0.96	114
	macro avg	0.97	0.96	0.96	114
	weighted avg	0.97	0.96	0.96	114

Visual Testing

- Bar plot for accuracy comparison using plotly.express
- Heatmap for confusion matrix using seaborn

