Results

```
Best Hyperparameters: {'max_depth': None, 'min_samples_split': 2, 'n_estimators': 100}
Accuracy: 0.9561
Precision: 0.9589
Sensitivity (Recall): 0.9722
Specificity: 0.9286
F1-Score: 0.9655
Confusion Matrix:
 [[39  3]
 [ 2 70]]
```

Accuracy: Accuracy shows how many predictions the model got correct overall. In this case, an accuracy of 95.61% means the model did a great job of correctly predicting both malignant and benign cases.

Precision: Precision tells us how often the model is right when it predicts a malignant case. With a precision of 95.89%, it means that when the model said a case was malignant, it was right almost 96% of the time, which is really good for minimizing false positives.

Recall: Recall, also called sensitivity, measures how well the model detects all the actual malignant cases. A recall of 97.22% shows the model is really good at catching most of the malignant cases, missing very few.

F1-Score: The F1-score is a balance between precision and recall. At 96.55%, it tells us that the model has a good mix of being accurate in identifying malignant cases and not misclassifying them too much, making it a well-rounded performer.