

Name – Prajakta Patil

E22CSEU0912

Lab – 2



Naive Bayes - Average K-Fold Accuracy: 0.8226

Metrics for Naive Bayes:

Accuracy: 0.8111

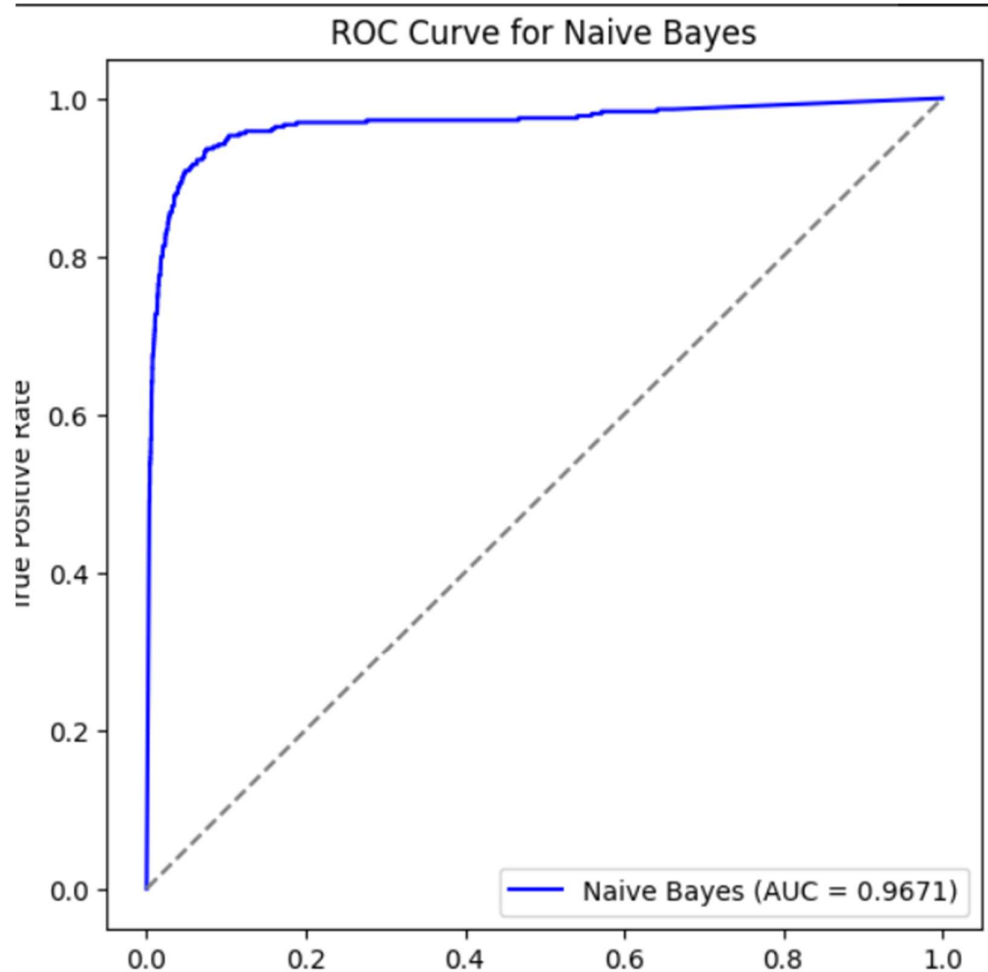
Precision: 0.8480

Recall: 0.8111

F1-Score: 0.8151

Confusion Matrix:

```
[[33  0  0  0  1  1  0  0  1  0]
 [ 0 29  1  0  0  0  1  0  3  2]
 [ 0  3 19  0  0  0  0  0 13  0]
 [ 0  0  1 26  0  0  0  1  8  1]
 [ 0  2  0  0 26  0  1  6  1  0]
 [ 0  0  0  0  0 35  0  1  0  1]
 [ 0  1  0  0  0  0 35  0  0  0]
 [ 0  0  0  0  0  1  0 35  0  0]
 [ 0  4  1  0  0  0  0  1 29  0]
 [ 0  3  1  0  0  0  0  4  3 25]]
```



Random Forest - Average K-Fold Accuracy: 0.9729

Metrics for Random Forest:

Accuracy: 0.9611

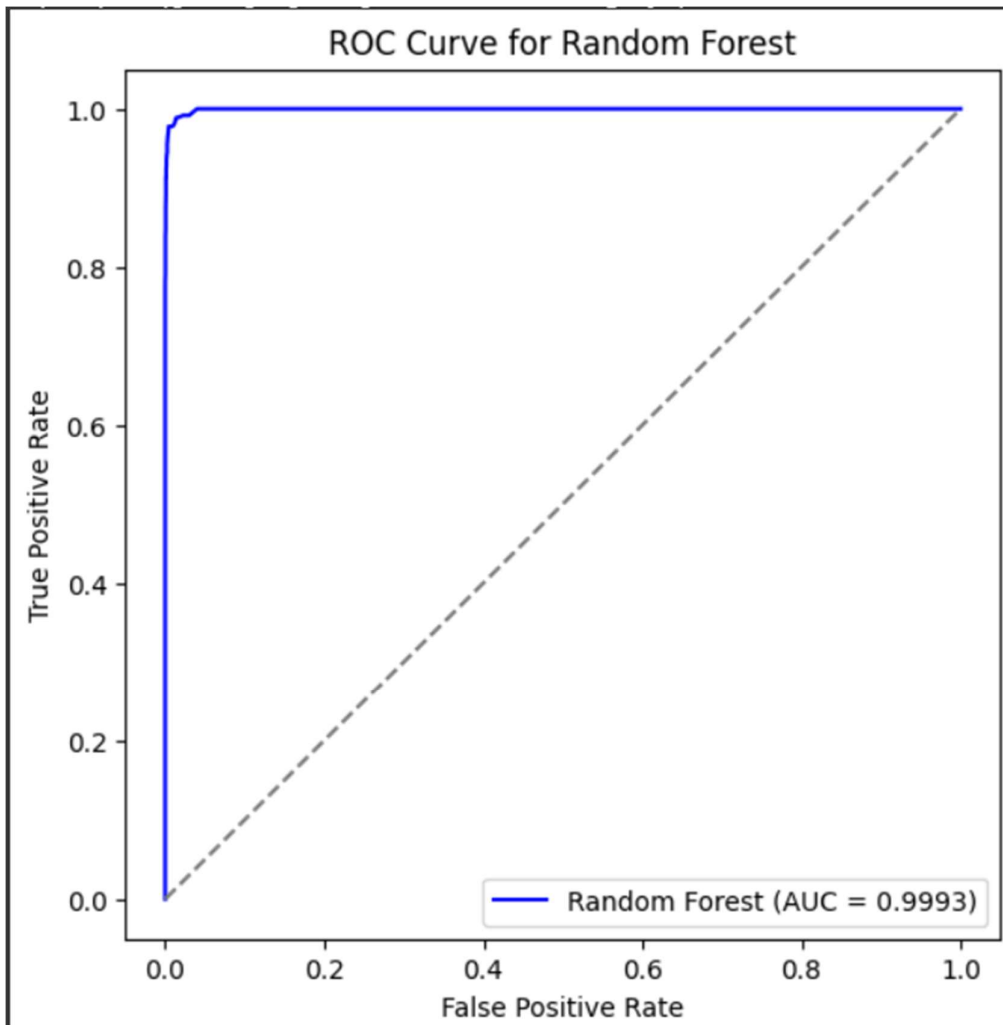
Precision: 0.9620

Recall: 0.9611

F1-Score: 0.9609

Confusion Matrix:

```
[[35  0  0  0  1  0  0  0  0  0]
 [ 0 35  0  0  0  1  0  0  0  0]
 [ 1  0 34  0  0  0  0  0  0  0]
 [ 0  0  0 36  0  0  0  0  0  1]
 [ 0  1  0  0 35  0  0  0  0  0]
 [ 0  0  0  0  0 37  0  0  0  0]
 [ 0  0  0  0  0  0 35  0  1  0]
 [ 0  0  0  0  0  0  0 36  0  0]
 [ 0  3  0  0  0  0  0  2 30  0]
 [ 0  0  0  1  0  0  0  1  1 33]]
```



```
(0.9611111111111111,
 0.9619957049958986,
 0.9611111111111111,
 0.9609403298924463,
 array([[35,  0,  0,  0,  1,  0,  0,  0,  0,  0],
        [ 0, 35,  0,  0,  0,  1,  0,  0,  0,  0],
        [ 1,  0, 34,  0,  0,  0,  0,  0,  0,  0],
        [ 0,  0,  0, 36,  0,  0,  0,  0,  0,  1],
        [ 0,  1,  0,  0, 35,  0,  0,  0,  0,  0],
        [ 0,  0,  0,  0,  0, 37,  0,  0,  0,  0],
        [ 0,  0,  0,  0,  0,  0, 35,  0,  1,  0],
        [ 0,  0,  0,  0,  0,  0,  0, 36,  0,  0],
        [ 0,  3,  0,  0,  0,  0,  0,  0,  2, 30,  0],
        [ 0,  0,  0,  1,  0,  0,  0,  1,  1, 33]]),
 0.9992986968449931)
```