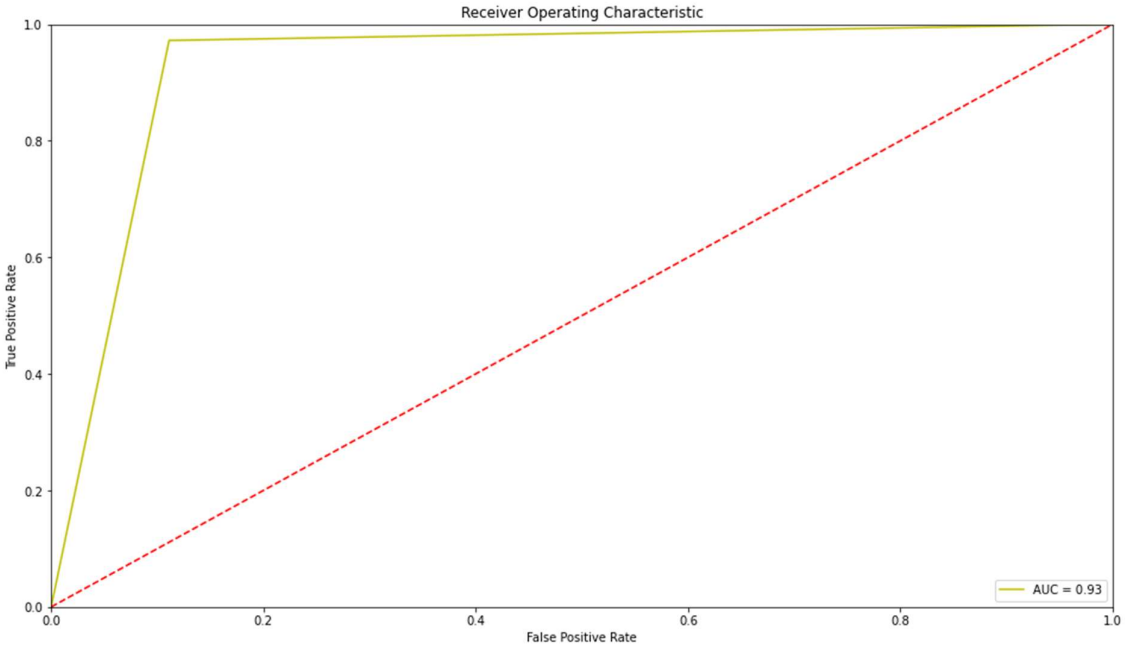
Decision Tree Classification

```
Confusion Matrix :
 [[ 56   7]
 [  1 107]]
Accuracy Score is 0.9532
Classification Report :
              precision    recall  f1-score   support

           0       0.98      0.89      0.93        63
           1       0.94      0.99      0.96       108

    accuracy                           0.95       171
   macro avg       0.96      0.94      0.95       171
weighted avg       0.95      0.95      0.95       171

AUC-ROC: 0.9398148148148148
LOGLOSS Value is 1.6159
```



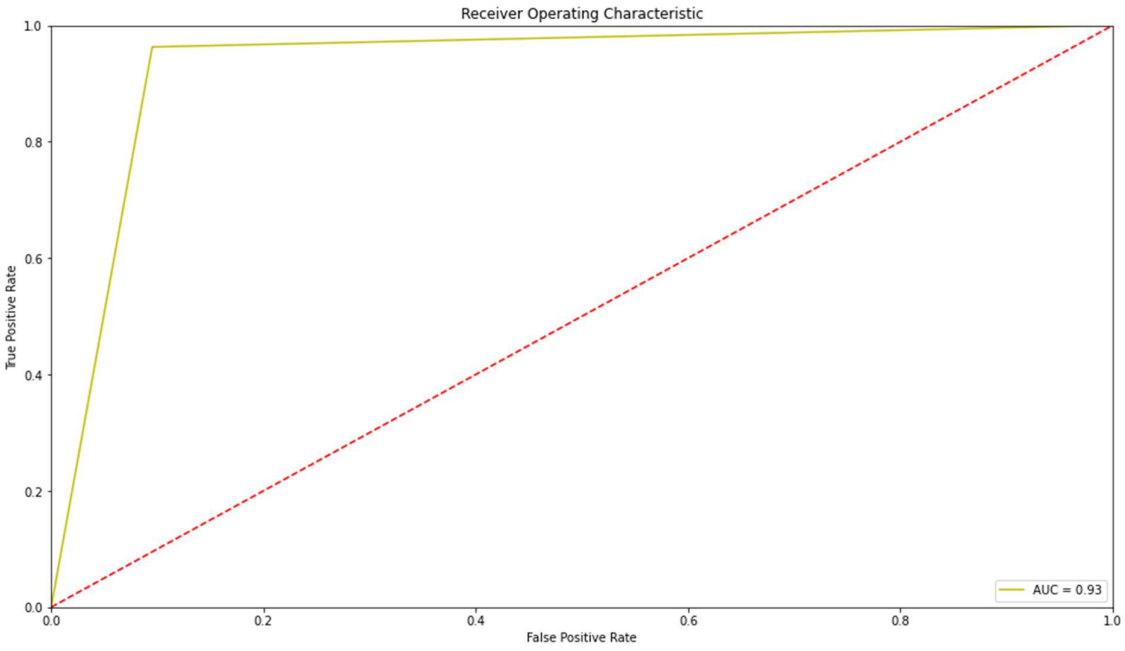
Random Forest Classification

```
Confusion Matrix :
 [[ 57   6]
 [  4 104]]
Accuracy Score is 0.9415
Classification Report :
              precision    recall  f1-score   support

           0       0.93      0.90      0.92        63
           1       0.95      0.96      0.95       108

    accuracy                           0.94       171
   macro avg       0.94      0.93      0.94       171
weighted avg       0.94      0.94      0.94       171

AUC-ROC: 0.9338624338624338
LOGLOSS Value is 2.0198
```



Random Forest Classification

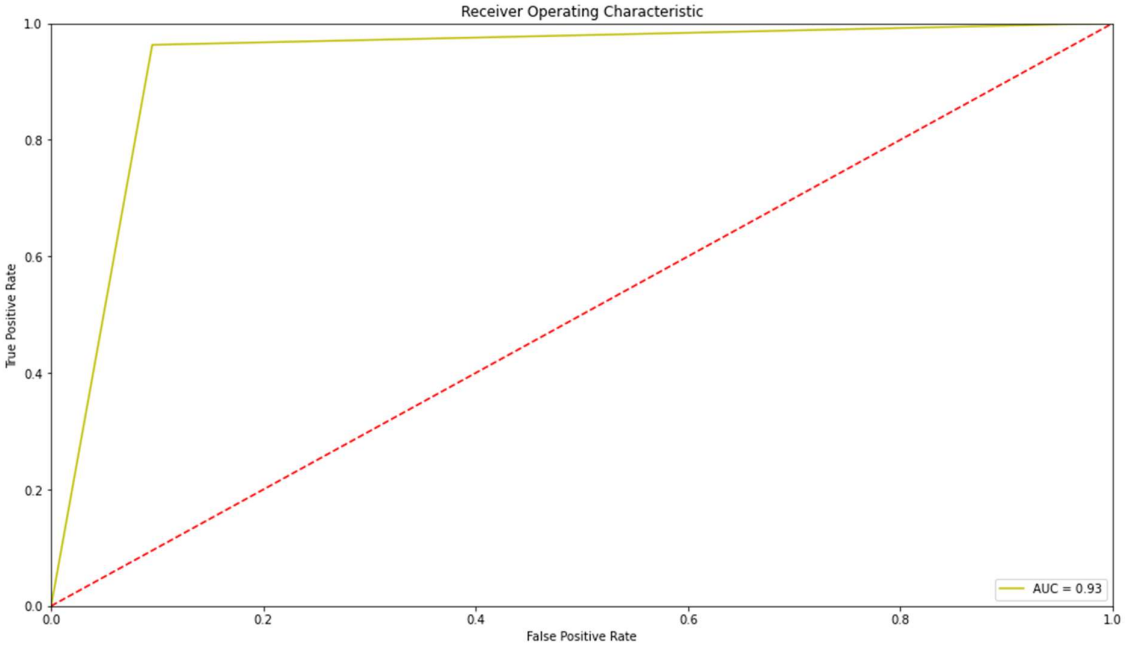
(With parameters changed)

```
Confusion Matrix :
 [[ 57   6]
 [  4 104]]
Accuracy Score is 0.9415
Classification Report :
              precision    recall  f1-score   support

           0       0.93      0.90      0.92        63
           1       0.95      0.96      0.95       108

    accuracy                           0.94       171
   macro avg       0.94      0.93      0.94       171
weighted avg       0.94      0.94      0.94       171

AUC-ROC: 0.9338624338624338
LOGLOSS Value is 2.0198
```



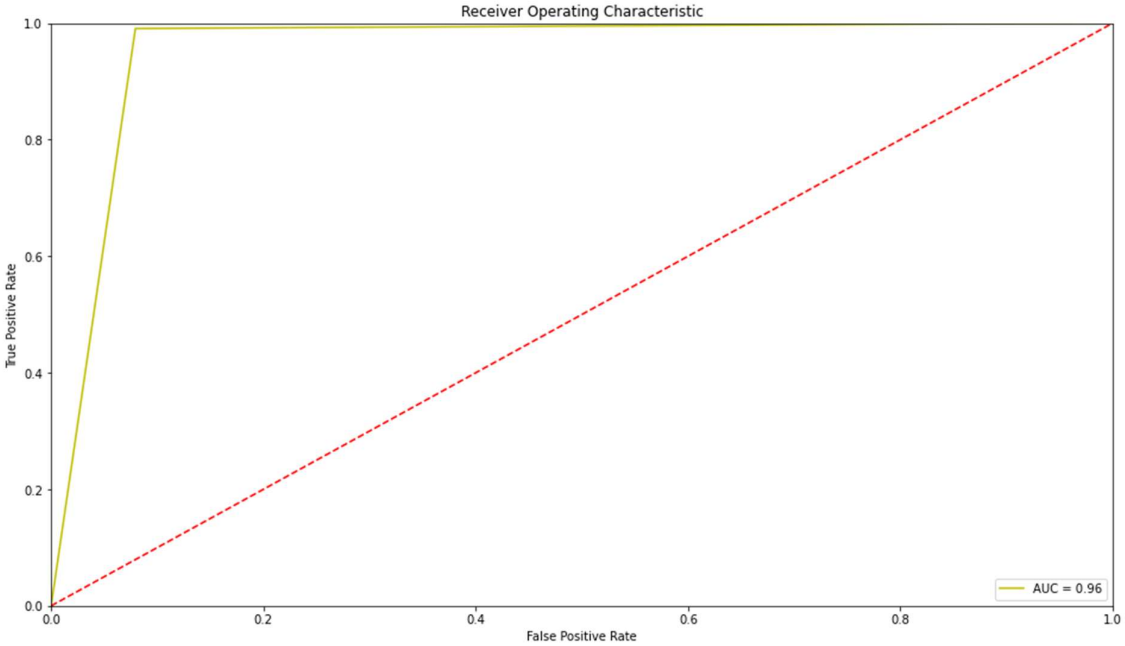
Gradient Boosting Classification

```
Confusion Matrix :
 [[ 58   5]
 [  1 107]]
Accuracy Score is 0.9649
Classification Report :
              precision    recall  f1-score   support

           0       0.98      0.92      0.95        63
           1       0.96      0.99      0.97       108

    accuracy                           0.96       171
   macro avg       0.97      0.96      0.96       171
weighted avg       0.97      0.96      0.96       171

AUC-ROC: 0.9556878306878308
LOGLOSS Value is 1.2119
```



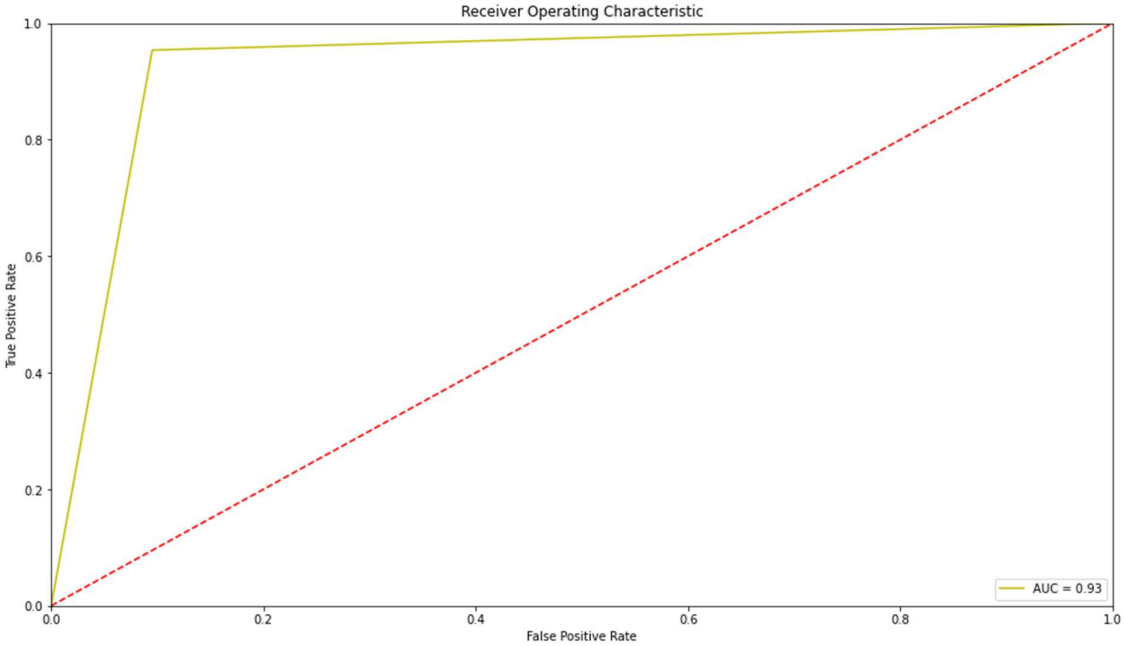
KNN Classification

```
Confusion Matrix :
 [[ 57   6]
 [  5 103]]
Accuracy Score is 0.9357
Classification Report :
              precision    recall  f1-score   support

           0       0.92      0.90      0.91        63
           1       0.94      0.95      0.95       108

    accuracy                           0.94       171
   macro avg       0.93      0.93      0.93       171
weighted avg       0.94      0.94      0.94       171

AUC-ROC: 0.9292328042328043
LOGLOSS Value is 2.2218
```



Comparing F1- scores for all models we find that Best fit is given by Gradient Boosting method.