Random Forest Training with balanced feature dataset:

TF-IDF:

Without LDA:

Classification Report:

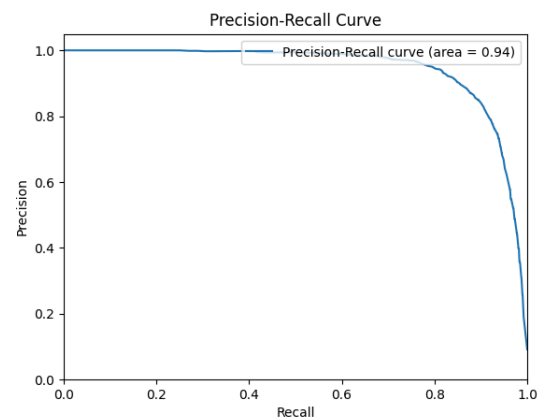|	precision	recall	f1-score	support
0	1.00	0.57	0.73	23122
1	0.19	0.99	0.32	2330
accuracy			0.61	25452
macro avg	0.59	0.78	0.52	25452
weighted avg	0.92	0.61	0.69	25452

Confusion Matrix:
[[13159 9963]
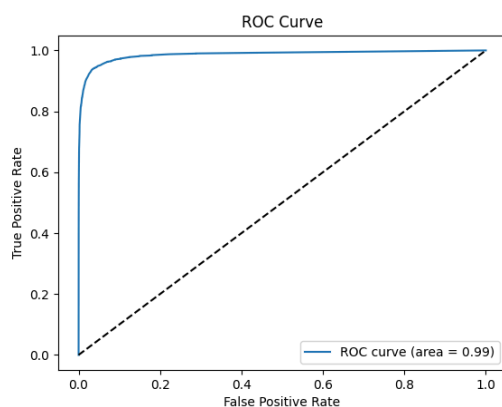 [18 2312]]
Accuracy: 0.61
Balanced Accuracy: 0.78
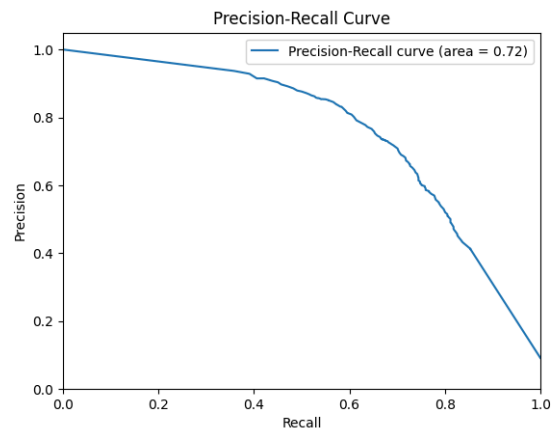ROC-AUC Score: 0.99
Average Precision-Recall Score: 0.94

With LDA:

Classification Report:

	precision	recall	f1-score	support

```
        0      0.98      0.88      0.93      23122
        1      0.41      0.85      0.55       2330

  accuracy                         0.87      25452
  macro avg      0.70      0.87      0.74      25452
weighted avg       0.93      0.87      0.89      25452
```

Confusion Matrix:
[[20262 2860]
 [340 1990]]
Accuracy: 0.87
Balanced Accuracy: 0.87
ROC-AUC Score: 0.90
Average Precision-Recall Score: 0.72
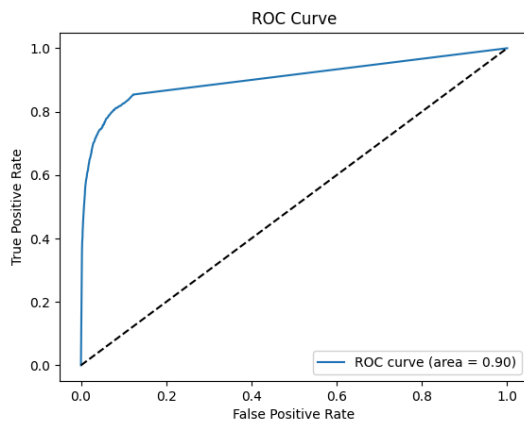
BoW:
Without LDA:

```
Classification Report:
              precision    recall  f1-score   support

           0       1.00      0.52      0.69     23122
           1       0.17      0.99      0.30      2330

    accuracy                           0.57     25452
   macro avg       0.59      0.76      0.49     25452
weighted avg       0.92      0.57      0.65     25452

Confusion Matrix:
[[12108 11014]
 [   20  2310]]
Accuracy: 0.57
Balanced Accuracy: 0.76
ROC-AUC Score: 0.99
Average Precision-Recall Score: 0.95
```
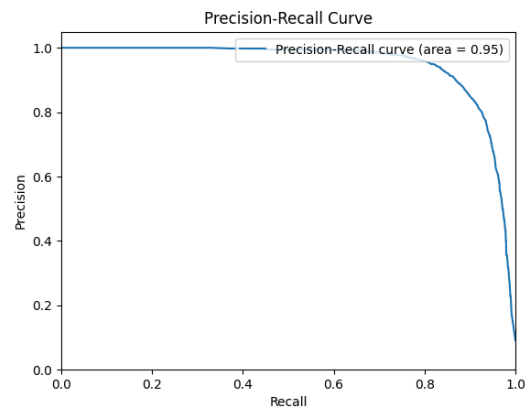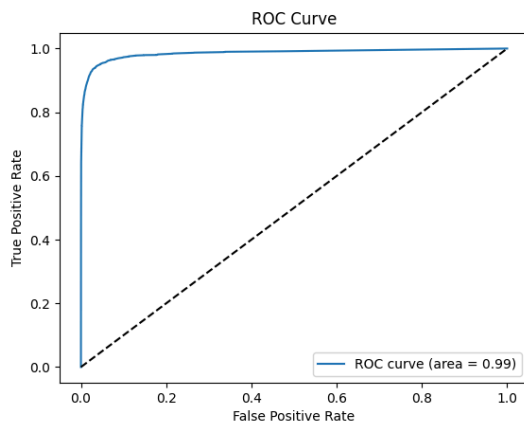

With LDA:

```
Classification Report:
              precision    recall  f1-score   support

           0       0.98      0.83      0.90     23122
           1       0.32      0.79      0.46      2330

    accuracy                           0.83     25452
   macro avg       0.65      0.81      0.68     25452
weighted avg       0.92      0.83      0.86     25452

Confusion Matrix:
[[19232  3890]
 [  493  1837]]
Accuracy: 0.83
Balanced Accuracy: 0.81
ROC-AUC Score: 0.85
Average Precision-Recall Score: 0.56
```


ROC Curve

Precision-Recall Curve