Decision Tree

```
print(classification_report(y_test, model.predict(X_test)))
```

```
              precision    recall  f1-score   support

         0.0       0.94      0.95      0.95     14573
         1.0       0.94      0.92      0.93     11403

    accuracy                           0.94     25976
   macro avg       0.94      0.94      0.94     25976
weighted avg       0.94      0.94      0.94     25976
```

Decision Tree Build-in model

```
[ ] print(classification_report(y_test, DT_m.predict(X_test)))
```

```
              precision    recall  f1-score   support

         0.0       0.95      0.95      0.95     14573
         1.0       0.93      0.93      0.93     11403

    accuracy                           0.94     25976
   macro avg       0.94      0.94      0.94     25976
weighted avg       0.94      0.94      0.94     25976
```

MLP

```
[ ]  print(classification_report(y_test,  (model.predict(X_test) > 0.5).astype(int)))
```

	precision	recall	f1-score	support
0.0	0.95	0.97	0.96	14573
1.0	0.97	0.94	0.95	11403
accuracy			0.96	25976
macro avg	0.96	0.96	0.96	25976
weighted avg	0.96	0.96	0.96	25976

MLP Build-in Model

```
print(classification_report(y_test,  (NN1.predict(X_test) > 0.5).astype(int) ))
```

	precision	recall	f1-score	support
0.0	0.95	0.97	0.96	14573
1.0	0.96	0.94	0.95	11403
accuracy			0.95	25976
macro avg	0.96	0.95	0.95	25976
weighted avg	0.96	0.95	0.95	25976

Logistic Regression

Normal Gradient Descent

```
[ ]  print(classification_report(Y_test.T, lr1.predict(X_test)))
```

	precision	recall	f1-score	support
0.0	0.83	0.81	0.82	14573
1.0	0.76	0.78	0.77	11403
accuracy			0.80	25976
macro avg	0.80	0.80	0.80	25976
weighted avg	0.80	0.80	0.80	25976

Gradient Descent Optimized with Adam

```
print(classification_report(Y_test.T, lr2.predict(X_test)))
```

	precision	recall	f1-score	support
0.0	0.87	0.90	0.89	14573
1.0	0.87	0.83	0.85	11403
accuracy			0.87	25976
macro avg	0.87	0.87	0.87	25976
weighted avg	0.87	0.87	0.87	25976

Logistic Regression Build-in model

```
[ ]  print(classification_report(y_test, LR_m.predict(X_test)))
```

	precision	recall	f1-score	support
0.0	0.87	0.90	0.88	14573
1.0	0.87	0.83	0.85	11403
accuracy			0.87	25976
macro avg	0.87	0.86	0.87	25976
weighted avg	0.87	0.87	0.87	25976

Gaussian Naive Bayes

```
print(classification_report(y_test, gnb.predict(np.array(X_test))))
```

```
              precision    recall  f1-score   support

         0.0       0.85      0.90      0.87     14573
         1.0       0.86      0.80      0.83     11403

    accuracy                           0.86     25976
   macro avg       0.86      0.85      0.85     25976
weighted avg       0.86      0.86      0.86     25976
```

Gaussian Naive Bayes Build-in Model

```
[ ] print(classification_report(y_test, gnb1.predict(np.array(X_test))))
```

```
              precision    recall  f1-score   support

         0.0       0.85      0.90      0.87     14573
         1.0       0.86      0.80      0.83     11403

    accuracy                           0.86     25976
   macro avg       0.86      0.85      0.85     25976
weighted avg       0.86      0.86      0.86     25976
```