- <u>Retraining an Image Classifier</u>: Build a Keras model on top of a pre-trained image classifier to distinguish flowers.
- <u>Text Classification</u>: Classify IMDB movie reviews as either *positive* or *negative*.
- Style Transfer: Use deep learning to transfer style between images.
- <u>Multilingual Universal Sentence Encoder Q&A</u>: Use a machine learning model to answer questions from the SQuAD dataset.
- Video Interpolation: Predict what happened in a video between the first and the last frame.

DataFrame: data

<u>View</u>

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
data = pd.read_csv("/content/Phishingwebsites_Data.csv")
data.head()
DataFrame with shape (11055, 31)
```

id having_IP_Address URL_Length Shortining_Service having_At_Symbol double_s 1 0 1 -1 1 1 2 1 1 1 1 1 2 3 1 0 1 1 3 0 1 1 4 5 1 1 0 -1

False

```
from sklearn.metrics import accuracy score
from sklearn.metrics import mean squared error
from sklearn import metrics
from sklearn.model_selection import train_test_split
x=data.drop('having_IP_Address',axis=1)
y=data['having IP Address']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random_state=0)
adc.fit(x_train,y_train)
y predict=adc.predict(x test)
print("train set accuracy: ",100*adc.score(x_train,y_train)) me: data
print("Test set accuracy : ",100*adc.score(x_test,y_test))
train set accuracy: 84.96155585707824
     Test set accuracy: 84.71279963817278
                              recall f1-score
                  precision
                                                 support
              -1
                       0.83
                                0.70
                                          0.76
                                                     762
               1
                       0.85
                                0.93
                                          0.89
                                                    1449
                                          0.85
                                                    2211
        accuracy
                       0.84
                                0.81
                                          0.82
                                                    2211
       macro avg
                                0.85
                                          0.84
                                                    2211
    weighted avg
                       0.85
from sklearn.ensemble import AdaBoostClassifier
from sklearn.metrics import accuracy score
from sklearn.metrics import mean squared error
from sklearn import metrics
from sklearn.model_selection import train_test_split
x=data.drop('URL Length',axis=1)
y=data['URL_Length']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random state=0)
adc.fit(x_train,y_train)
y_predict=adc.predict(x_test)
print("train set accuracy: ",100*adc.score(x train,y train))
print("Test set accuracy : ",100*adc.score(x_test,y_test))
print(metrics.classification_report(y_test,y_predict))
     train set accuracy: 85.2894617819991
     Test set accuracy: 84.62234283129806
                              recall f1-score
                  precision
                                                 support
              -1
                       0.87
                                0.95
                                          0.91
                                                    1800
                                0.20
               0
                       0.24
                                          0.22
                                                      30
               1
                       0.68
                                0.40
                                          0.50
                                                     381
                                          0.85
                                                    2211
        accuracy
                       0.60
                                0.52
                                          0.54
                                                    2211
       macro avg
    weighted avg
                       0.83
                                0.85
                                          0.83
                                                    2211
```

from sklearn.ensemble import AdaBoostClassifier
from sklearn.metrics import accuracy_score

```
from sklearn.metrics import mean squared error
from sklearn import metrics
from sklearn.model selection import train test split
x=data.drop('Shortining_Service',axis=1)
y=data['Shortining_Service']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random_state=0)
adc.fit(x_train,y_train)
y_predict=adc.predict(x_test)
print("Test set accuracy : ",100*adc.score(x_test,y_test)
print(metrics.classification report(y test,y predict <u>Mew</u>
                                                 DataFrame with shape (11055, 31)
    train set accuracy: 97.42198100407056
    Test set accuracy: 97.60289461781998
                            recall f1-score
                 precision
                                               support
              -1
                      0.95
                               0.86
                                         0.90
                                                   287
                      0.98
                               0.99
                                         0.99
              1
                                                  1924
                                         0.98
                                                  2211
        accuracy
       macro avg
                      0.96
                               0.93
                                         0.94
                                                  2211
    weighted avg
                      0.98
                               0.98
                                         0.98
                                                  2211
```

```
from sklearn.ensemble import AdaBoostClassifier
from sklearn.metrics import accuracy_score
from sklearn.metrics import mean_squared_error
from sklearn import metrics
from sklearn.model_selection import train_test_split
x=data.drop('having_At_Symbol',axis=1)
y=data['having At Symbol']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random_state=0)
adc.fit(x_train,y_train)
y predict=adc.predict(x test)
print("train set accuracy: ",100*adc.score(x_train,y_train))
print("Test set accuracy : ",100*adc.score(x_test,y_test))
print(metrics.classification_report(y_test,y_predict))
```

train set accuracy: 90.06105834464043 Test set accuracy: 89.68792401628222

	precision	recall	f1-score	support
-1	0.77	0.47	0.59	342
1	0.91	0.97	0.94	1869
accuracy			0.90	2211
macro avg	0.84	0.72	0.76	2211
weighted avg	0.89	0.90	0.89	2211

```
from sklearn.ensemble import AdaBoostClassifier
from sklearn.metrics import accuracy score
from sklearn.metrics import mean squared error
```

```
from sklearn import metrics
from sklearn.model selection import train test split
x=data.drop('double slash redirecting',axis=1)
y=data['double_slash_redirecting']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random state=0)
adc.fit(x_train,y_train)
y_predict=adc.predict(x_test)
print("train set accuracy: ",100*adc.score(x_train,y_train))
print(metrics.classification_report(y_test,y_predict))
                                                   <u>View</u>
     train set accuracy: 97.85165083672547
                                                   DataFrame with shape (11055, 31)
     Test set accuracy : 97.3767526006332
                  precision
                             recall f1-score support
              -1
                       0.91
                                0.88
                                          0.89
                                                     278
               1
                       0.98
                                 0.99
                                           0.99
                                                    1933
        accuracy
                                           0.97
                                                    2211
                                           0.94
                                                    2211
       macro avg
                       0.95
                                 0.93
    weighted avg
                       0.97
                                 0.97
                                           0.97
                                                    2211
from sklearn.ensemble import AdaBoostClassifier
from sklearn.metrics import accuracy_score
from sklearn.metrics import mean_squared_error
from sklearn import metrics
from sklearn.model_selection import train_test_split
x=data.drop('Prefix Suffix',axis=1)
y=data['Prefix_Suffix']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random state=0)
adc.fit(x_train,y_train)
y_predict=adc.predict(x_test)
print("train set accuracy: ",100*adc.score(x_train,y_train))
print("Test set accuracy : ",100*adc.score(x_test,y_test))
print(metrics.classification_report(y_test,y_predict))
     train set accuracy: 87.05336951605608
    Test set accuracy: 88.42152872003618
                             recall f1-score
                  precision
                                                 support
                       0.89
                                 0.99
                                           0.94
                                                    1930
              -1
               1
                       0.66
                                 0.18
                                           0.28
                                                     281
                                           0.88
                                                    2211
        accuracy
                       0.78
                                 0.58
                                           0.61
                                                    2211
       macro avg
                                           0.85
                                                    2211
    weighted avg
                       0.86
                                 0.88
from sklearn.ensemble import AdaBoostClassifier
```

```
from sklearn.ensemble import AdaBoostClassifier
from sklearn.metrics import accuracy_score
from sklearn.metrics import mean_squared_error
from sklearn import metrics
from sklearn.model selection import train test split
```

```
x=data.drop('having Sub Domain',axis=1)
y=data['having Sub Domain']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random state=0)
adc.fit(x_train,y_train)
y_predict=adc.predict(x_test)
print("train set accuracy: ",100*adc.score(x_train,y_train))
print("Test set accuracy : ",100*adc.score(x_test,y_test))
print(metrics.classification_report(y_test,y_predict))
                                                      DataFrame: data
     train set accuracy: 55.461329715061055
     Test set accuracy: 55.992763455450024
                                                     View
                   precision
                              recall f1-score
                                                    support
                                                     DataFrame with shape (11055, 31)
               -1
                        0.45
                                  0.33
                                            0.38
                                                        650
                0
                        0.54
                                  0.56
                                            0.55
                                                        712
                1
                                                        849
                        0.63
                                  0.73
                                            0.68
                                            0.56
                                                       2211
         accuracy
        macro avg
                        0.54
                                  0.54
                                            0.54
                                                       2211
     weighted avg
                        0.55
                                  0.56
                                            0.55
                                                       2211
from sklearn.ensemble import AdaBoostClassifier
from sklearn.metrics import accuracy score
from sklearn.metrics import mean_squared_error
from sklearn import metrics
from sklearn.model selection import train test split
x=data.drop('SSLfinal State',axis=1)
y=data['SSLfinal_State']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random_state=0)
adc.fit(x_train,y_train)
y_predict=adc.predict(x_test)
print("train set accuracy: ",100*adc.score(x_train,y_train))
print("Test set accuracy : ",100*adc.score(x_test,y_test))
print(metrics.classification report(y test,y predict))
     train set accuracy: 79.69244685662596
     Test set accuracy: 78.01899592944369
                   precision
                              recall f1-score
                                                    support
                        0.65
                                  0.75
                                            0.70
                                                        710
               -1
                0
                        0.48
                                  0.34
                                            0.40
                                                        247
                1
                        0.91
                                  0.88
                                            0.90
                                                       1254
                                            0.78
                                                       2211
         accuracy
        macro avg
                        0.68
                                  0.66
                                            0.66
                                                       2211
                                            0.78
     weighted avg
                        0.78
                                  0.78
                                                       2211
from sklearn.ensemble import AdaBoostClassifier
from sklearn.metrics import accuracy score
from sklearn.metrics import mean squared error
```

```
from sklearn.metrics import mean_squared_error
from sklearn import metrics
from sklearn.model selection import train test split
```

```
x=data.drop('Domain registeration length',axis=1)
y=data['Domain registeration length']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random state=0)
adc.fit(x_train,y_train)
y_predict=adc.predict(x_test)
print("train set accuracy: ",100*adc.score(x_train,y_train))
print("Test set accuracy : ",100*adc.score(x_test,y_test))
print(metrics.classification_report(y_test,y_predict))
                                                     DataFrame: data
     train set accuracy: 80.68747173224786
     Test set accuracy: 80.05427408412483
                                                    View
                   precision recall f1-score
                                                   support
                                                     DataFrame with shape (11055, 31)
               -1
                        0.86
                                 0.82
                                            0.84
                                                      1436
                1
                        0.70
                                  0.76
                                            0.73
                                                       775
         accuracy
                                            0.80
                                                      2211
                        0.78
                                  0.79
                                            0.79
                                                      2211
        macro avg
     weighted avg
                        0.81
                                  0.80
                                            0.80
                                                      2211
from sklearn.ensemble import AdaBoostClassifier
from sklearn.metrics import accuracy score
from sklearn.metrics import mean_squared_error
from sklearn import metrics
from sklearn.model_selection import train_test_split
x=data.drop('Favicon',axis=1)
y=data['Favicon']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random_state=0)
adc.fit(x_train,y_train)
y predict=adc.predict(x test)
print("train set accuracy: ",100*adc.score(x train,y train))
print("Test set accuracy : ",100*adc.score(x_test,y_test))
print(metrics.classification_report(y_test,y_predict))
     train set accuracy: 98.30393487109905
     Test set accuracy: 98.10040705563094
                   precision
                              recall f1-score
                                                   support
               -1
                        0.96
                                  0.94
                                            0.95
                                                       426
                1
                        0.99
                                  0.99
                                            0.99
                                                      1785
                                            0.98
                                                      2211
         accuracy
                        0.97
                                  0.97
                                            0.97
                                                      2211
        macro avg
                        0.98
                                  0.98
                                            0.98
                                                      2211
     weighted avg
from sklearn.ensemble import AdaBoostClassifier
from sklearn.metrics import accuracy score
from sklearn.metrics import mean squared error
from sklearn import metrics
from sklearn.model selection import train test split
```

x=data.drop('port',axis=1)

y=data['port']

```
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random state=0)
adc.fit(x train,y train)
y_predict=adc.predict(x_test)
print("train set accuracy: ",100*adc.score(x_train,y_train))
print("Test set accuracy : ",100*adc.score(x_test,y_test))
print(metrics.classification_report(y_test,y_predict))
     train set accuracy: 98.73360470375395
     Test set accuracy: 98.28132066938036
                                                    supata Frame: data
                   precision
                              recall f1-score
                                  0.95
                                            0.94
               -1
                        0.92
                        0.99
                                  0.99
                1
                                            0.99
                                                     Data Frame with shape (11055, 31)
                                            0.98
         accuracy
                                                       2211
        macro avg
                        0.96
                                  0.97
                                            0.96
                                                       2211
     weighted avg
                        0.98
                                  0.98
                                            0.98
                                                       2211
from sklearn.ensemble import AdaBoostClassifier
from sklearn.metrics import accuracy score
from sklearn.metrics import mean_squared_error
from sklearn import metrics
from sklearn.model_selection import train_test_split
x=data.drop('HTTPS_token',axis=1)
y=data['HTTPS_token']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random_state=0)
adc.fit(x_train,y_train)
y_predict=adc.predict(x_test)
print("train set accuracy: ",100*adc.score(x_train,y_train))
print("Test set accuracy : ",100*adc.score(x_test,y_test))
print(metrics.classification_report(y_test,y_predict))
     train set accuracy: 94.4708276797829
     Test set accuracy: 93.441881501583
                                recall f1-score
                   precision
                                                   support
               -1
                        0.88
                                  0.70
                                            0.78
                                                       368
                1
                        0.94
                                  0.98
                                            0.96
                                                       1843
                                            0.93
                                                       2211
         accuracy
                        0.91
                                  0.84
                                            0.87
                                                       2211
        macro avg
                                  0.93
                                            0.93
                                                       2211
     weighted avg
                        0.93
from sklearn.ensemble import AdaBoostClassifier
from sklearn.metrics import accuracy score
from sklearn.metrics import mean squared error
from sklearn import metrics
from sklearn.model selection import train test split
x=data.drop('Request URL',axis=1)
y=data['Request_URL']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random state=0)
adc.fit(x train.v train)
```

```
Welcome To Colaboratory - Colaboratory
----,
y predict=adc.predict(x test)
print("train set accuracy: ",100*adc.score(x_train,y_train))
print("Test set accuracy : ",100*adc.score(x_test,y_test))
print(metrics.classification report(y test,y predict))
     train set accuracy: 81.70511080958842
    Test set accuracy: 81.63726820443237
                  precision recall f1-score support
                       0.84
                                0.71
                                           0.77
               -1
                                                      950
                                                    Dataframe: data
                       0.80
                                 0.90
                                           0.85
                                           0.82
        accuracy
        macro avg
                       0.82
                                0.80
                                           0.81
                                                    Data rame with shape (11055, 31)
    weighted avg
                       0.82
                                 0.82
                                           0.81
                                                     2211
from sklearn.ensemble import AdaBoostClassifier
from sklearn.metrics import accuracy_score
from sklearn.metrics import mean_squared_error
from sklearn import metrics
from sklearn.model_selection import train_test_split
x=data.drop('URL_of_Anchor',axis=1)
y=data['URL_of_Anchor']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random state=0)
adc.fit(x_train,y_train)
y_predict=adc.predict(x_test)
print("train set accuracy: ",100*adc.score(x_train,y_train))
print("Test set accuracy : ",100*adc.score(x_test,y_test))
print(metrics.classification_report(y_test,y_predict))
     train set accuracy: 66.7910447761194
    Test set accuracy: 67.20940750791497
                  precision
                             recall f1-score support
               -1
                       0.75
                                 0.84
                                           0.80
                                                      694
               0
                                 0.72
                                           0.68
                                                      1043
                        0.65
               1
                        0.53
                                 0.33
                                           0.41
                                                      474
                                           0.67
                                                      2211
        accuracy
                       0.65
                                0.63
                                           0.63
                                                      2211
        macro avg
                                 0.67
                                                      2211
    weighted avg
                       0.66
                                           0.66
from sklearn.ensemble import AdaBoostClassifier
from sklearn.metrics import accuracy_score
from sklearn.metrics import mean_squared_error
from sklearn import metrics
from sklearn.model_selection import train_test_split
x=data.drop('Links_in_tags',axis=1)
y=data['Links in tags']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
```

adc.fit(x train,y train)

adc=AdaBoostClassifier(random state=0)

```
y predict=adc.predict(x test)
print("train set accuracy: ",100*adc.score(x train,y train))
print("Test set accuracy : ",100*adc.score(x test,y test))
print(metrics.classification_report(y_test,y_predict))
     train set accuracy: 47.8629579375848
    Test set accuracy: 46.675712347354136
                  precision
                             recall f1-score
                                                  support
```

```
-1
                         0.49
                                   0.47
                                             0.48
                                                         785
                0
                         0.47
                                   0.59
                                              0.53
                                                       Data Prame: data
                1
                         0.40
                                   0.26
                                              0.31
                                                         557
                                                      View
                                                       Datarame with shape (11055, 31)
                                             0.47
         accuracy
                                   0.44
                                             0.44
        macro avg
                         0.45
                                                        2211
     weighted avg
                         0.46
                                   0.47
                                              0.46
from sklearn.ensemble import AdaBoostClassifier
```

```
from sklearn.metrics import accuracy_score
from sklearn.metrics import mean_squared_error
from sklearn import metrics
from sklearn.model_selection import train_test_split
x=data.drop('SFH',axis=1)
y=data['SFH']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random state=0)
adc.fit(x_train,y_train)
y_predict=adc.predict(x_test)
print("train set accuracy: ",100*adc.score(x_train,y_train))
print("Test set accuracy : ",100*adc.score(x_test,y_test))
print(metrics.classification_report(y_test,y_predict))
```

Test set accuracy: 78.24513794663048 precision recall f1-score support -1 0.81 0.96 0.88 1712 0 0.00 0.00 0.00 151 1 0.49 0.24 0.33 348 0.78 2211 accuracy

0.40

0.78

train set accuracy: 78.3355947535052

0.43

0.71

```
from sklearn.ensemble import AdaBoostClassifier
from sklearn.metrics import accuracy_score
from sklearn.metrics import mean_squared_error
from sklearn import metrics
from sklearn.model_selection import train_test_split
x=data.drop('Submitting_to_email',axis=1)
y=data['Submitting to email']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random state=0)
adc.fit(x train,y train)
```

0.40

0.73

2211

2211

macro avg

weighted avg

```
y predict=adc.predict(x test)
print("train set accuracy: ",100*adc.score(x train,y train))
print("Test set accuracy : ",100*adc.score(x test,y test))
print(metrics.classification_report(y_test,y_predict))
     train set accuracy: 95.16056083220262
     Test set accuracy: 93.35142469470827
                   precision
                             recall f1-score
                                                   support
                        0.93
                                  0.70
                                            0.80
                                                       420
                1
                        0.93
                                  0.99
                                            0.96
                                                     Da79frame: data
                                                     <u>View</u>11
                                            0.93
         accuracy
                        0.93
        macro avg
                                  0.85
                                            0.88
                                                     2211
DataFrame with shape (11055, 31)
                                  0.93
                                            0.93
     weighted avg
                        0.93
from sklearn.ensemble import AdaBoostClassifier
from sklearn.metrics import accuracy_score
from sklearn.metrics import mean squared error
from sklearn import metrics
from sklearn.model_selection import train_test_split
x=data.drop('Abnormal_URL',axis=1)
y=data['Abnormal_URL']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random_state=0)
adc.fit(x_train,y_train)
y_predict=adc.predict(x_test)
print("train set accuracy: ",100*adc.score(x_train,y_train))
print("Test set accuracy : ",100*adc.score(x_test,y_test))
print(metrics.classification_report(y_test,y_predict))
     train set accuracy: 95.88421528720036
     Test set accuracy: 95.61284486657621
                             recall f1-score support
                   precision
                                  0.81
                                            0.85
               -1
                        0.88
                                                       327
                1
                        0.97
                                  0.98
                                            0.97
                                                      1884
                                            0.96
                                                      2211
         accuracy
                        0.92
                                  0.90
                                            0.91
                                                      2211
        macro avg
     weighted avg
                        0.96
                                  0.96
                                            0.96
                                                      2211
from sklearn.ensemble import AdaBoostClassifier
from sklearn.metrics import accuracy score
from sklearn.metrics import mean_squared_error
from sklearn import metrics
from sklearn.model selection import train test split
x=data.drop('Redirect',axis=1)
y=data['Redirect']
x train,x test,y train,y test=train test split(x,y,test size=0.20,random state=0)
adc=AdaBoostClassifier(random state=0)
adc.fit(x_train,y_train)
y predict=adc.predict(x test)
print("train set accuracy: ",100*adc.score(x_train,y_train))
```

```
print("Test set accuracy : ",100*adc.score(x_test,y_test))
print(metrics.classification report(y test,y predict))
```

```
train set accuracy: 93.13658977838082
Test set accuracy: 92.67299864314789
```

	precision	recall	f1-score	support	
0 1	0.94 0.76	0.98 0.55	0.96 0.64	1951 260	
accuracy macro avg weighted avg	0.85 0.92	0.76 0.93	0.93 0.80 0.92	2211 DataFrame 2211 <u>Vi@</u> 211	: data

DataFrame with shape (11055, 31)

```
from sklearn.ensemble import AdaBoostClassifier
from sklearn.metrics import accuracy_score
from sklearn.metrics import mean_squared_error
from sklearn import metrics
from sklearn.model_selection import train_test_split
x=data.drop('on_mouseover',axis=1)
y=data['on_mouseover']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random_state=0)
adc.fit(x_train,y_train)
y_predict=adc.predict(x_test)
print("train set accuracy: ",100*adc.score(x train,y train))
```

train set accuracy: 95.16056083220262 Test set accuracy: 93.9846223428313

print("Test set accuracy : ",100*adc.score(x_test,y_test))
print(metrics.classification_report(y_test,y_predict))

	precision	recall	f1-score	support
-1	0.74	0.76	0.75	260
1	0.97	0.96	0.97	1951
accuracy			0.94	2211
macro avg	0.85	0.86	0.86	2211
weighted avg	0.94	0.94	0.94	2211

```
from sklearn.ensemble import AdaBoostClassifier
from sklearn.metrics import accuracy_score
from sklearn.metrics import mean_squared_error
from sklearn import metrics
from sklearn.model_selection import train_test_split
x=data.drop('RightClick',axis=1)
y=data['RightClick']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random_state=0)
adc.fit(x_train,y_train)
y_predict=adc.predict(x_test)
print("train set accuracy: ",100*adc.score(x_train,y_train))
print("Test set accuracy: ",100*adc.score(x_test,y_test))
print(metrics.classification_report(y_test,y_predict))
```

```
train set accuracy: 96.40434192672998
     Test set accuracy: 96.11035730438715
                   precision
                                recall f1-score
                                                   support
                                  0.47
                                            0.51
               -1
                        0.56
                                                         96
                        0.98
                                            0.98
                1
                                  0.98
                                                       2115
                                            0.96
         accuracy
                                                       2211
                        0.77
                                  0.73
                                            0.75
        macro avg
                                                       2211
     weighted avg
                        0.96
                                  0.96
                                            0.96
                                                       2211
                                                      DataFrame: data
                                                     View
from sklearn.ensemble import AdaBoostClassifier
                                                     DataFrame with shape (11055, 31)
from sklearn.metrics import accuracy score
from sklearn.metrics import mean squared error
from sklearn import metrics
from sklearn.model selection import train test split
x=data.drop('popUpWidnow',axis=1)
y=data['popUpWidnow']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random state=0)
adc.fit(x_train,y_train)
y_predict=adc.predict(x_test)
print("train set accuracy: ",100*adc.score(x_train,y_train))
print("Test set accuracy : ",100*adc.score(x_test,y_test))
print(metrics.classification_report(y_test,y_predict))
     train set accuracy: 98.37177747625509
     Test set accuracy : 98.05517865219358
                              recall f1-score
                   precision
                                                    support
                        0.96
                                  0.94
                                            0.95
               -1
                                                        439
                1
                        0.98
                                  0.99
                                            0.99
                                                       1772
                                            0.98
                                                       2211
         accuracy
        macro avg
                        0.97
                                  0.96
                                            0.97
                                                       2211
                                  0.98
     weighted avg
                        0.98
                                            0.98
                                                       2211
from sklearn.ensemble import AdaBoostClassifier
from sklearn.metrics import accuracy score
from sklearn.metrics import mean squared error
from sklearn import metrics
from sklearn.model selection import train test split
x=data.drop('Iframe',axis=1)
y=data['Iframe']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random state=0)
adc.fit(x train,y train)
y_predict=adc.predict(x_test)
print("train set accuracy: ",100*adc.score(x_train,y_train))
print("Test set accuracy : ",100*adc.score(x test,y test))
print(metrics.classification_report(y_test,y_predict))
```

train set accuracy: 96.42695612844867

Test set accuracy: 96.47218453188603

```
precision
                              recall f1-score support
                        0.81
                                  0.78
                                            0.80
                                                       194
               -1
                1
                        0.98
                                  0.98
                                            0.98
                                                      2017
                                            0.96
                                                      2211
         accuracy
                                            0.89
                                                      2211
        macro avg
                        0.89
                                  0.88
     weighted avg
                        0.96
                                  0.96
                                            0.96
                                                      2211
                                                     DataFrame: data
from sklearn.ensemble import AdaBoostClassifier
                                                     View
from sklearn.metrics import accuracy_score
                                                     DataFrame with shape (11055, 31)
from sklearn.metrics import mean squared error
from sklearn import metrics
from sklearn.model_selection import train_test_split
x=data.drop('age_of_domain',axis=1)
y=data['age_of_domain']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random state=0)
adc.fit(x_train,y_train)
y_predict=adc.predict(x_test)
print("train set accuracy: ",100*adc.score(x_train,y_train))
print("Test set accuracy : ",100*adc.score(x_test,y_test))
print(metrics.classification_report(y_test,y_predict))
     train set accuracy: 69.2672998643148
     Test set accuracy: 68.475802804161
                   precision
                              recall f1-score
                                                   support
               -1
                        0.66
                                  0.63
                                            0.65
                                                      1010
                1
                        0.70
                                  0.73
                                            0.71
                                                      1201
                                            0.68
                                                      2211
         accuracy
        macro avg
                        0.68
                                  0.68
                                            0.68
                                                      2211
                        0.68
                                  0.68
                                            0.68
                                                      2211
     weighted avg
from sklearn.ensemble import AdaBoostClassifier
from sklearn.metrics import accuracy score
from sklearn.metrics import mean_squared_error
from sklearn import metrics
from sklearn.model selection import train test split
x=data.drop('DNSRecord',axis=1)
y=data['DNSRecord']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random state=0)
adc.fit(x_train,y_train)
y_predict=adc.predict(x_test)
print("train set accuracy: ",100*adc.score(x_train,y_train))
print("Test set accuracy : ",100*adc.score(x_test,y_test))
print(metrics.classification_report(y_test,y_predict))
     train set accuracy: 85.87743102668476
     Test set accuracy: 86.883763003166
                                recall f1-score
                                                   support
                   precision
```

```
-1
                    0.83
                               0.72
                                          0.77
                                                     674
                    0.88
                               0.93
                                          0.91
            1
                                                    1537
                                          0.87
                                                    2211
    accuracy
                    0.86
                               0.83
                                          0.84
                                                    2211
   macro avg
weighted avg
                    0.87
                               0.87
                                          0.87
                                                    2211
```

```
from sklearn.ensemble import AdaBoostClassifier
                                                     DataFrame: data
from sklearn.metrics import accuracy score
from sklearn.metrics import mean_squared_error
                                                     View
from sklearn import metrics
                                                     DataFrame with shape (11055, 31)
from sklearn.model_selection import train_test split
x=data.drop('web_traffic',axis=1)
y=data['web_traffic']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random_state=0)
adc.fit(x_train,y_train)
y_predict=adc.predict(x_test)
print("train set accuracy: ",100*adc.score(x_train,y_train))
print("Test set accuracy : ",100*adc.score(x_test,y_test))
print(metrics.classification_report(y_test,y_predict))
```

train set accuracy: 59.55450022614202 Test set accuracy: 60.741745816372685

1050 500 accaracy : 0017 127 1502057 2005				
	precision	recall	f1-score	support
-1	0.52	0.40	0.45	553
0	0.45	0.32	0.37	501
1	0.68	0.83	0.74	1157
accuracy			0.61	2211
macro avg	0.55	0.52	0.52	2211
weighted avg	0.58	0.61	0.59	2211

```
from sklearn.ensemble import AdaBoostClassifier
from sklearn.metrics import accuracy score
from sklearn.metrics import mean_squared_error
from sklearn import metrics
from sklearn.model selection import train test split
x=data.drop('Page_Rank',axis=1)
y=data['Page_Rank']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random state=0)
adc.fit(x_train,y_train)
y predict=adc.predict(x test)
print("train set accuracy: ",100*adc.score(x train,y train))
print("Test set accuracy : ",100*adc.score(x_test,y_test))
print(metrics.classification_report(y_test,y_predict))
     train set accuracy: 75.62189054726367
     Test set accuracy: 75.7123473541384
```

recall f1-score

support

precision

```
0.78
                               0.94
           -1
                                          0.85
                                                     1636
            1
                    0.58
                               0.25
                                          0.34
                                                      575
                                          0.76
                                                     2211
    accuracy
   macro avg
                    0.68
                               0.59
                                          0.60
                                                     2211
                    0.73
                                          0.72
                                                     2211
weighted avg
                               0.76
```

```
from sklearn.ensemble import AdaBoostClassifier
from sklearn.metrics import accuracy_score
                                                     DataFrame: data
from sklearn.metrics import mean_squared_error
from sklearn import metrics
                                                     View
from sklearn.model_selection import train_test_split
                                                     DataFrame with shape (11055, 31)
x=data.drop('Google_Index',axis=1)
y=data['Google_Index']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random state=0)
adc.fit(x_train,y_train)
y_predict=adc.predict(x_test)
print("train set accuracy: ",100*adc.score(x_train,y_train))
print("Test set accuracy : ",100*adc.score(x_test,y_test))
print(metrics.classification_report(y_test,y_predict))
     train set accuracy: 86.94029850746269
     Test set accuracy: 86.83853459972863
                                recall f1-score
                   precision
                                                   support
               -1
                        0.63
                                  0.15
                                            0.24
                                                       310
                                            0.93
                        0.88
                                  0.99
                1
                                                      1901
```

0.87

0.59

0.83

2211

2211

2211

```
from sklearn.ensemble import AdaBoostClassifier
from sklearn.metrics import accuracy score
from sklearn.metrics import mean squared error
from sklearn import metrics
from sklearn.model_selection import train_test_split
x=data.drop('Links pointing to page',axis=1)
y=data['Links_pointing_to_page']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random state=0)
adc.fit(x_train,y_train)
y_predict=adc.predict(x_test)
print("train set accuracy: ",100*adc.score(x train,y train))
print("Test set accuracy : ",100*adc.score(x test,y test))
print(metrics.classification_report(y_test,y_predict))
     train set accuracy: 75.02261420171868
     Test set accuracy: 74.94346449570331
                   precision
                                recall f1-score
                                                   support
               -1
                        0.17
                                  0.05
                                            0.07
                                                       107
```

0.78

0.82

0.80

1238

accuracy

macro avg
weighted avg

0.75

0.84

0.57

0.87

```
1
                               0.73
                                          0.73
                    0.73
                                                     866
                                          0.75
                                                    2211
    accuracy
                    0.56
                               0.53
   macro avg
                                          0.53
                                                     2211
weighted avg
                    0.73
                               0.75
                                          0.74
                                                    2211
```

```
from sklearn.ensemble import AdaBoostClassifier
from sklearn.metrics import accuracy score
from sklearn.metrics import mean_squared_error
                                                     DataFrame: data
from sklearn import metrics
from sklearn.model_selection import train_test_split View
x=data.drop('Statistical_report',axis=1)
                                                     DataFrame with shape (11055, 31)
y=data['Statistical_report']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random_state=0)
adc.fit(x_train,y_train)
y_predict=adc.predict(x_test)
print("train set accuracy: ",100*adc.score(x_train,y_train))
print("Test set accuracy : ",100*adc.score(x_test,y_test))
print(metrics.classification_report(y_test,y_predict))
     train set accuracy: 89.80099502487562
     Test set accuracy: 89.91406603346903
                   precision
                                recall f1-score
                                                   support
               -1
                        0.74
                                  0.40
                                            0.52
                                                       300
```

0.94

0.90

0.73

0.89

1911

2211

2211

2211

```
from sklearn.ensemble import AdaBoostClassifier
from sklearn.metrics import accuracy_score
from sklearn.metrics import mean_squared_error
from sklearn import metrics
from sklearn.model_selection import train_test_split
x=data.drop('Result',axis=1)
y=data['Result']
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.20,random_state=0)
adc=AdaBoostClassifier(random_state=0)
adc.fit(x_train,y_train)
y_predict=adc.predict(x_test)
print("train set accuracy: ",100*adc.score(x_train,y_train))
print("Test set accuracy: ",100*adc.score(x_test,y_test))
print(metrics.classification_report(y_test,y_predict))
```

precision recall f1-score support
-1 0.94 0.91 0.93 1014
1 0.93 0.95 0.94 1197

train set accuracy: 93.8150158299412 Test set accuracy: 93.26096788783356

1

accuracy

macro avg

weighted avg

0.91

0.82

0.89

0.98

0.69

0.90

accuracy			0.93	2211
macro avg	0.93	0.93	0.93	2211
weighted avg	0.93	0.93	0.93	2211

DataFrame: data

<u>View</u>

DataFrame with shape (11055, 31)

✓ 0s completed at 10:29 AM