Classification Report 2022-09-02 21:40:45.872511

## Model : lr\_Classifier

Accuracy\_score : 74.39 %

Loss : 25.61 %

Hamming\_loss : 7.03 %

Classification\_report :   
 precision recall f1-score support  
  
 0 0.78 0.68 0.73 350  
 1 0.59 0.42 0.49 201  
 2 0.89 0.89 0.89 144  
 3 1.00 0.93 0.97 30  
 4 0.87 0.89 0.88 247  
  
 micro avg 0.80 0.72 0.76 972  
 macro avg 0.83 0.76 0.79 972  
weighted avg 0.79 0.72 0.75 972  
 samples avg 0.32 0.32 0.31 972

File saved : MultiLabelModel\_lr\_Classifier.pkl

data : {'Accuracy': 74.39, 'Loss': 25.61, 'Hamming\_loss': 7.03, 'Model\_name': 'lr\_Classifier', 'Filename': 'MultiLabelModel\_lr\_Classifier.pkl'}

## Model : knn\_Classifier

Accuracy\_score : 82.74 %

Loss : 17.26 %

Hamming\_loss : 4.63 %

Classification\_report :   
 precision recall f1-score support  
  
 0 0.81 0.75 0.78 350  
 1 0.82 0.85 0.83 201  
 2 0.89 0.90 0.89 144  
 3 1.00 0.37 0.54 30  
 4 0.91 0.98 0.94 247  
  
 micro avg 0.86 0.84 0.85 972  
 macro avg 0.89 0.77 0.80 972  
weighted avg 0.86 0.84 0.84 972  
 samples avg 0.36 0.36 0.35 972

File saved : MultiLabelModel\_knn\_Classifier.pkl

data : {'Accuracy': 82.74, 'Loss': 17.26, 'Hamming\_loss': 4.63, 'Model\_name': 'knn\_Classifier', 'Filename': 'MultiLabelModel\_knn\_Classifier.pkl'}

## Model : nb\_Classifier

Accuracy\_score : 62.41 %

Loss : 37.59 %

Hamming\_loss : 15.65 %

Classification\_report :   
 precision recall f1-score support  
  
 0 0.55 0.73 0.63 350  
 1 0.43 0.84 0.57 201  
 2 0.48 0.99 0.65 144  
 3 0.13 0.90 0.23 30  
 4 0.71 1.00 0.83 247  
  
 micro avg 0.49 0.87 0.63 972  
 macro avg 0.46 0.89 0.58 972  
weighted avg 0.54 0.87 0.66 972  
 samples avg 0.22 0.36 0.25 972

File saved : MultiLabelModel\_nb\_Classifier.pkl

data : {'Accuracy': 62.41, 'Loss': 37.59, 'Hamming\_loss': 15.65, 'Model\_name': 'nb\_Classifier', 'Filename': 'MultiLabelModel\_nb\_Classifier.pkl'}

## Model : svm\_Classifier

Accuracy\_score : 60.05 %

Loss : 39.95 %

Hamming\_loss : 13.6 %

Classification\_report :   
 precision recall f1-score support  
  
 0 0.97 0.10 0.18 350  
 1 0.92 0.06 0.11 201  
 2 1.00 0.10 0.19 144  
 3 0.00 0.00 0.00 30  
 4 1.00 0.20 0.33 247  
  
 micro avg 0.98 0.11 0.20 972  
 macro avg 0.78 0.09 0.16 972  
weighted avg 0.94 0.11 0.20 972  
 samples avg 0.06 0.05 0.05 972

File saved : MultiLabelModel\_svm\_Classifier.pkl

data : {'Accuracy': 60.05, 'Loss': 39.95, 'Hamming\_loss': 13.6, 'Model\_name': 'svm\_Classifier', 'Filename': 'MultiLabelModel\_svm\_Classifier.pkl'}

## Model : dt\_Classifier

Accuracy\_score : 95.74 %

Loss : 4.26 %

Hamming\_loss : 0.91 %

Classification\_report :   
 precision recall f1-score support  
  
 0 0.97 0.97 0.97 350  
 1 0.95 0.92 0.93 201  
 2 0.99 1.00 0.99 144  
 3 0.84 0.90 0.87 30  
 4 1.00 1.00 1.00 247  
  
 micro avg 0.97 0.97 0.97 972  
 macro avg 0.95 0.96 0.95 972  
weighted avg 0.97 0.97 0.97 972  
 samples avg 0.43 0.42 0.42 972

File saved : MultiLabelModel\_dt\_Classifier.pkl

data : {'Accuracy': 95.74, 'Loss': 4.26, 'Hamming\_loss': 0.91, 'Model\_name': 'dt\_Classifier', 'Filename': 'MultiLabelModel\_dt\_Classifier.pkl'}

## Model : rf\_Classifier

Accuracy\_score : 96.38 %

Loss : 3.62 %

Hamming\_loss : 0.74 %

Classification\_report :   
 precision recall f1-score support  
  
 0 0.96 0.97 0.97 350  
 1 0.96 0.96 0.96 201  
 2 1.00 0.98 0.99 144  
 3 1.00 0.90 0.95 30  
 4 1.00 1.00 1.00 247  
  
 micro avg 0.98 0.98 0.98 972  
 macro avg 0.98 0.96 0.97 972  
weighted avg 0.98 0.98 0.98 972  
 samples avg 0.43 0.43 0.43 972

File saved : MultiLabelModel\_rf\_Classifier.pkl

data : {'Accuracy': 96.38, 'Loss': 3.62, 'Hamming\_loss': 0.74, 'Model\_name': 'rf\_Classifier', 'Filename': 'MultiLabelModel\_rf\_Classifier.pkl'}

## Model : gb\_Classifier

Accuracy\_score : 96.53 %

Loss : 3.47 %

Hamming\_loss : 0.71 %

Classification\_report :   
 precision recall f1-score support  
  
 0 0.96 0.98 0.97 350  
 1 0.95 0.97 0.96 201  
 2 0.99 1.00 0.99 144  
 3 1.00 0.90 0.95 30  
 4 1.00 1.00 1.00 247  
  
 micro avg 0.97 0.98 0.98 972  
 macro avg 0.98 0.97 0.97 972  
weighted avg 0.97 0.98 0.98 972  
 samples avg 0.43 0.43 0.43 972

File saved : MultiLabelModel\_gb\_Classifier.pkl

data : {'Accuracy': 96.53, 'Loss': 3.47, 'Hamming\_loss': 0.71, 'Model\_name': 'gb\_Classifier', 'Filename': 'MultiLabelModel\_gb\_Classifier.pkl'}

## Model : ab\_Classifier

Accuracy\_score : 95.82 %

Loss : 4.18 %

Hamming\_loss : 0.88 %

Classification\_report :   
 precision recall f1-score support  
  
 0 0.96 0.97 0.96 350  
 1 0.94 0.94 0.94 201  
 2 0.99 1.00 1.00 144  
 3 0.94 0.97 0.95 30  
 4 1.00 1.00 1.00 247  
  
 micro avg 0.97 0.97 0.97 972  
 macro avg 0.96 0.97 0.97 972  
weighted avg 0.97 0.97 0.97 972  
 samples avg 0.43 0.42 0.42 972

File saved : MultiLabelModel\_ab\_Classifier.pkl

data : {'Accuracy': 95.82, 'Loss': 4.18, 'Hamming\_loss': 0.88, 'Model\_name': 'ab\_Classifier', 'Filename': 'MultiLabelModel\_ab\_Classifier.pkl'}