**Classification Assignment**

**1.Random Forest Classification Report:**

**precision recall f1-score support**

0 0.94 0.92 0.93 79

1 0.86 0.88 0.87 41

**accuracy** 0.91 120

macro avg 0.90 0.90 0.90 120

weighted avg 0.91 0.91 0.91 120

1. What is the over all performance of this model?

Answer : That is Accuracy of this model is 0.91

1. What is the recall value of purchased? Or What is the value correctly classified of purchased to the overall test set?

Answer : 0.88

1. What is the recall value of not purchased?What is the value correctly classified of not purchased to the overall test set?

Answer : 0.92

1. What is the precision value of purchased? Or what is the value of correctly as well as wrongly classified as purchased to the overall test set?

Answer : 0.86

1. What is the precision value of not purchased? Or what is the value of correctly as well as wrongly classified as not purchased to the overall test set?

Answer : 0.94

1. What is the total test count of this model?

Answer : 120

1. How much present support 0’s count of this model?

Answer : 79

1. How much present support 1’scount of this model?

Answer : 41

1. what is the f1-score of not purchased to the overall test set?

Answer : 0.93

10.what is the f1-score of purchased to the overall test set?

Answer : 0.87

10.What is the value of macro avg ?

Answer : precision = recall = f1-score = 0.90

11.What is the value of weighted avg ?

Answer : precision = recall = f1-score = 0.91

**2.Decision Tree Classification Report:**

precision recall f1-score support

0 0.96 0.90 0.93 79

1 0.83 0.93 0.87 41

accuracy 0.91 120

macro avg 0.89 0.91 0.90 120

weighted avg 0.91 0.91 0.91 120

1. What is the over all performance of this model?

Answer : 0.91

1. What is the value of correctly classified of purchased to the test set?

Answer : 0.93

1. What is the value of corectly classified of not purchased to the test set?

Answer : 0.90

1. What is the value of correctly as well as worngly classified of purchased to the test set?

Answer : 0.83

1. What is the value of correctly as well as wrongly classified of the not purchased to the test?

Answer : 0.96

6.What is the total test count of this model?

Answer : 120

7.How much present support 0’s count of this model?

Answer : 79

8.How much present support 1’scount of this model?

Answer : 41

9.what is the f1-score of not purchased to the overall test set?

Answer : 0.93

10.what is the f1-score of purchased to the overall test set?

Answer : 0.87

10.What is the value of macro avg ?

Answer : precision =0.89, recall = 0.91 and f1-score = 0.90

11.What is the value of weighted avg ?

Answer : precision = recall = f1-score = 0.91

**3.SVM Classification Report:**

precision recall f1-score support

0 0.77 0.97 0.86 79

1 0.90 0.44 0.59 41

accuracy 0.79 120

macro avg 0.83 0.71 0.73 120

weighted avg 0.81 0.79 0.77 120

1.What is the over all performance of this model?

Answer : 0.79

2.What is the value of correctly classified of purchased to the test set?

Answer : 0.44

3.What is the value of corectly classified of not purchased to the test set?

Answer : 0.97

4.What is the value of correctly as well as worngly classified of purchased to the test set?

Answer : 0.90

5.What is the value of correctly as well as wrongly classified of the not purchased to the test?

Answer : 0.77

6.What is the total test count of this model?

Answer : 120

7.How much present support 0’s count of this model?

Answer : 79

8.How much present support 1’scount of this model?

Answer : 41

9.what is the f1-score of not purchased to the overall test set?

Answer : 0.86

10.what is the f1-score of purchased to the overall test set?

Answer : 0.59

10.What is the value of macro avg ?

Answer : precision =0.83, recall = 0.71 and f1-score = 0.73

11.What is the value of weighted avg ?

Answer : precision = 0.81,recall =0.79, f1-score = 0.77

**4.LogisticRegression Classification Report:**

precision recall f1-score support

0 0.90 0.94 0.92 79

1 0.87 0.80 0.84 41

accuracy 0.89 120

macro avg 0.89 0.87 0.88 120

weighted avg 0.89 0.89 0.89 120

1.What is the over all performance of this model?

Answer : 0.89

2.What is the value of correctly classified of purchased to the test set?

Answer : 0.80

3.What is the value of corectly classified of not purchased to the test set?

Answer : 0.94

4.What is the value of correctly as well as worngly classified of purchased to the test set?

Answer : 0.87

5.What is the value of correctly as well as wrongly classified of the not purchased to the test?

Answer : 0.90

6.What is the total test count of this model?

Answer : 120

7.How much present support 0’s count of this model?

Answer : 79

8.How much present support 1’scount of this model?

Answer : 41

9.what is the f1-score of not purchased to the overall test set?

Answer : 0.92

10.what is the f1-score of purchased to the overall test set?

Answer : 0.84

10.What is the value of macro avg ?

Answer : precision =0.89, recall = 0.87 and f1-score = 0.88

11.What is the value of weighted avg ?

Answer : precision = recall = f1-score = 0.89