**Random Forest Classification**

1.what is the percentage of correct classification of both (purchased/ not purchases) to the total input of the test set? (Accuracy)

90%

2. what is the percentage of correct classification of purchased to the total input of purchased in the test set? (Recall of the purchased)

88%

3. what is the percentage of correct classification of not purchased to the total input of purchased in the test set? (Recall of the Not purchased)

92%

4. what is the percentage of correct classification of purchased to the sum of correctly classified as purchased and wrongly classified as purchased in test set? (Precision of Purchased)

86%

5. what is the percentage of correct classification of not purchased to the sum of correctly classified as purchased and wrongly classified as purchased in test set? (Precision of not Purchased)

93%

6. what is the overall performance of purchased? (F1 score) 87%

7. what is the overall performance of not purchased? (F1 score) 92%

8. what is the average performance of precision? 89%

9. what is the average performance of Recall? 90%

10. what is the average performance of F1-measure? 90%

11. How precise is the model overall, considering the sum of product of proportion rate of each class? 90%

12. How well does the model identify correct positives across all classes, weighted by their frequency? 90%

13. How balanced is the model’s precision and recall across all classes, giving more weight to common classes? 90%

**Decision Tree Classification**

1.what is the percentage of correct classification of both (purchased/ not purchases) to the total input of the test set? (Accuracy)

87%

2. what is the percentage of correct classification of purchased to the total input of purchased in the test set? (Recall of the purchased)

84%

3. what is the percentage of correct classification of not purchased to the total input of purchased in the test set? (Recall of the Not purchased)

84%

4. what is the percentage of correct classification of purchased to the sum of correctly classified as purchased and wrongly classified as purchased in test set? (Precision of Purchased)

82%

5. what is the percentage of correct classification of not purchased to the sum of correctly classified as purchased and wrongly classified as purchased in test set? (Precision of not Purchased)

90%

6. what is the overall performance of purchased? (F1 score) 83%

7. what is the overall performance of not purchased? (F1 score) 90%

8. what is the average performance of precision? 86%

9. what is the average performance of Recall? 87%

10. what is the average performance of F1-measure? 86%

11. How precise is the model overall, considering the sum of product of proportion rate of each class? 87%

12. How well does the model identify correct positives across all classes, weighted by their frequency? 87%

13. How balanced is the model’s precision and recall across all classes, giving more weight to common classes? 87%

**Support VectorClassification**

1.what is the percentage of correct classification of both (purchased/ not purchases) to the total input of the test set? (Accuracy)

78%

2. what is the percentage of correct classification of purchased to the total input of purchased in the test set? (Recall of the purchased)

96%

3. what is the percentage of correct classification of not purchased to the total input of purchased in the test set? (Recall of the Not purchased)

47%

4. what is the percentage of correct classification of purchased to the sum of correctly classified as purchased and wrongly classified as purchased in test set? (Precision of Purchased)

88%

5. what is the percentage of correct classification of not purchased to the sum of correctly classified as purchased and wrongly classified as purchased in test set? (Precision of not Purchased)

76%

6. what is the overall performance of purchased? (F1 score) 61%

7. what is the overall performance of not purchased? (F1 score) 85%

8. what is the average performance of precision? 82%

9. what is the average performance of Recall? 72%

10. what is the average performance of F1-measure? 73%

11. How precise is the model overall, considering the sum of product of proportion rate of each class? 81%

12. How well does the model identify correct positives across all classes, weighted by their frequency? 78%

13. How balanced is the model’s precision and recall across all classes, giving more weight to common classes? 76%

**Overall Best model is created using Random Forest Classification.**