Social Network Ads – Purchased Prediction

RF Grid Classification: (This is the best model for this Data, since the Accuracy, Macro & Weighted Avg is 91% which is the highest)

#1.What is the % of Correct classification of both Purchased and Not-Purchased to the Total input in the test set = 91% (Accuracy)

#2.What is the % of Correct classification of Purchased people to the Correctly and Wrongly Purchased in the test set = 85% (Precision)

#3.What is the % of Correct classification of Purchased people to the Correctly Purchased in the test set = 92% (Recall)

#4.Overall Performance of Purchased people = 88% (F1-Score)

#5.What is the % of Correct classification of Not-Purchased people to the Correctly and Wrongly Not-Purchased in the test set = 95% (Precision)

#6.What is the % of Correct classification of Not-Purchased people to the Correctly Not-Purchased in the test set = 91% (Recall)

#7.Overall Performance of Not-Purchased people = 93% (F1-Score)

#8.What is the average performance of Correctly and Wrongly classified = 90% (Macro Avg- Precision)

#9.What is the average performance of Correctly classified = 91% (Macro Avg- Recall)

#10.What is the average performance of Overall Performance = 91% (Macro Avg- F1-Score)

#11.What is the sum of the product of the proportion rate and the Correctly & Wrongly Purchased in the test set = 91% (Weighted Avg- Precision)

#12.What is the sum of the product of the proportion rate and the Correctly Purchased in the test set = 91% (Weighted Avg- Recall)

#13.What is the sum of the product of the proportion rate and the Overall Performance of the test set = 91% (Weighted Avg- F1-score)

Decision Tree Grid Classification

#1.What is the % of Correct classification of both Purchased and Not-Purchased to the Total input in the test set = 89% (Accuracy)

#2.What is the % of Correct classification of Purchased people to the Correctly and Wrongly Purchased in the test set = 85% (Precision)

#3.What is the % of Correct classification of Purchased people to the Correctly Purchased in the test set = 84% (Recall)

#4.Overall Performance of Purchased people = 85% (F1-Score)

#5.What is the % of Correct classification of Not-Purchased people to the Correctly and Wrongly Not-Purchased in the test set = 91% (Precision)

#6.What is the % of Correct classification of Not-Purchased people to the Correctly Not-Purchased in the test set = 92% (Recall)

#7.Overall Performance of Not-Purchased people = 91% (F1-Score)

#8.What is the average performance of Correctly and Wrongly classified = 88% (Macro Avg- Precision)

#9.What is the average performance of Correctly classified = 88% (Macro Avg- Recall)

#10.What is the average performance of Overall Performance = 88% (Macro Avg- F1-Score)

#11.What is the sum of the product of the proportion rate and the Correctly & Wrongly Purchased in the test set = 89% (Weighted Avg- Precision)

#12.What is the sum of the product of the proportion rate and the Correctly Purchased in the test set = 89% (Weighted Avg- Recall)

#13.What is the sum of the product of the proportion rate and the Overall Performance of the test set = 89% (Weighted Avg- F1-score)

SVM Grid Classification:

#1.What is the % of Correct classification of both Purchased and Not-Purchased to the Total input in the test set = 91% (Accuracy)

#2.What is the % of Correct classification of Purchased people to the Correctly and Wrongly Purchased in the test set = 89% (Precision)

#3.What is the % of Correct classification of Purchased people to the Correctly Purchased in the test set = 86% (Recall)

#4.Overall Performance of Purchased people = 88% (F1-Score)

#5.What is the % of Correct classification of Not-Purchased people to the Correctly and Wrongly Not-Purchased in the test set = 92% (Precision)

#6.What is the % of Correct classification of Not-Purchased people to the Correctly Not-Purchased in the test set = 94% (Recall)

#7.Overall Performance of Not-Purchased people = 93% (F1-Score)

#8.What is the average performance of Correctly and Wrongly classified = 91% (Macro Avg- Precision)

#9.What is the average performance of Correctly classified = 90% (Macro Avg- Recall)

#10.What is the average performance of Overall Performance = 90% (Macro Avg- F1-Score)

#11.What is the sum of the product of the proportion rate and the Correctly & Wrongly Purchased in the test set = 91% (Weighted Avg- Precision)

#12.What is the sum of the product of the proportion rate and the Correctly Purchased in the test set = 91% (Weighted Avg- Recall)

#13.What is the sum of the product of the proportion rate and the Overall Performance of the test set = 91% (Weighted Avg- F1-score)

Logistic Grid Classification:

#1.What is the % of Correct classification of both Purchased and Not-Purchased to the Total input in the test set = 88% (Accuracy)

#2.What is the % of Correct classification of Purchased people to the Correctly and Wrongly Purchased in the test set = 87% (Precision)

#3.What is the % of Correct classification of Purchased people to the Correctly Purchased in the test set = 80% (Recall)

#4.Overall Performance of Purchased people = 83% (F1-Score)

#5.What is the % of Correct classification of Not-Purchased people to the Correctly and Wrongly Not-Purchased in the test set = 89% (Precision)

#6.What is the % of Correct classification of Not-Purchased people to the Correctly Not-Purchased in the test set = 93% (Recall)

#7.Overall Performance of Not-Purchased people = 91% (F1-Score)

#8.What is the average performance of Correctly and Wrongly classified = 88% (Macro Avg- Precision)

#9.What is the average performance of Correctly classified = 86% (Macro Avg- Recall)

#10.What is the average performance of Overall Performance = 87% (Macro Avg- F1-Score)

#11.What is the sum of the product of the proportion rate and the Correctly & Wrongly Purchased in the test set = 88% (Weighted Avg- Precision)

#12.What is the sum of the product of the proportion rate and the Correctly Purchased in the test set = 88% (Weighted Avg- Recall)

#13.What is the sum of the product of the proportion rate and the Overall Performance of the test set = 88% (Weighted Avg- F1-score)

Best Model: