Random Forest Classifier

Q.What is the percentage of correct classification of both with respect to total data?

Ans.Accuracy is (78+44)/(78+7+5+44) = 122/134 =0.91

Q.What is the percentage of correct classification of non-buyers with respect to non-buyers?

Ans.Recall of non-buyers

ie,

(78)/( 78+7)=>0.92

Q.What is the percentage of correct classification of buyers with respect to total buyers?

Ans.Recall of buyers

ie,

(44)/( 49)=>0.90

Q.What is the percentage of correct classification of non-buyers with respect to all classification of non-buyers?

Ans. Precision of non-buyers

ie,

(78)/( 78+5)=>0.94

Q. What is the percentage of correct classification of buyers with respect to all classification of buyers?

Ans.Precision of buyers

ie,

(44)/( 44+7)=>0.86

F1 value of Buyers = 2\*precision\*accuracy/recall+precison = 2\*0.86\*0.9/(0.86+.9)=1.548/1.76=0.88

F1 value of Non Buyers = 2\*precision\*accuracy/recall+precison = 2\*0.92\*0.94/(0.92+.94)=1.73/1.86=0.93

Q.Marco-average of Precision:

Ans:Average of Precision = (0.94+0.86)/2=1.8/2=0.9

Q.Weighted Average of Precision:

Ans: To standardize data

((Precision(Buyers)\*No of Buyers)/Total Users)+ ((Precision(Non-Buyers)\*No of Non-Buyers)/Total Users ))

ie,

(0.86\*49/134)+(0.94\*85/134)=0.31+0.60=0.91

Q.Marco-average of Recall:

Ans:Average of Recall = (0.9+0.92)/2=1.812/2=0.91

Q.Weighted Average of Recall:

Ans: To standardize data

((Recall (Buyers)\*No of Buyers)/Total Users)+ ((Recall (Non-Buyers)\*No of Non-Buyers)/Total Users ))

ie,

(0.92\*85/134)+(0.9\*49/134)=0.58+0.33=0.91

Q.Marco-average of F1 value:

Ans:Average of F1 value = (0.88+0.93)/2=1.81/2=0.905

Q.Weighted Average of F1 value:

Ans: To standardize data

((F1 value (Buyers)\*No of Buyers)/Total Users)+ ((F1 value (Non-Buyers)\*No of Non-Buyers)/Total Users ))

ie,

(0.93\*85/134)+(0.88\*49/134)=0.59+0.32=0.91

Decision Tree Classifier

Q.What is the percentage of correct classification of both with respect to total data?

Ans.Accuracy is (75+45)/(75+45+8+6) = 120/134 =0.895

Q.What is the percentage of correct classification of non-buyers with respect to total non-buyers?

Ans.Recall of non-buyers

ie,

(75)/( 75+6)=>0.93

Q.What is the percentage of correct classification of buyers with respect to total buyers?

Ans.Recall of buyers

ie,

(45)/( 53)=>0.85

Q.What is the percentage of correct classification of non-buyers with respect to all classification of non-buyers?

Ans. Precision of non-buyers

ie,

(75)/( 75+8)=>0.90

Q. What is the percentage of correct classification of buyers with respect to all classification of buyers?

Ans.Precision of buyers

ie,

(45)/( 45+6)=>0.88

F1 value of Buyers = 2\*precision\*accuracy/recall+precison = 2\*0..85\*0.88/(0.85+.88)=1.496/1.73=0.86

F1 value of Non-Buyers = 2\*precision\*accuracy/recall+precison = 2\*0.92\*0.94/(0.92+.94)=1.7296/1.86=0.93

Q.Marco-average of Precision:

Ans:Average of Precision = (0.9+0.88)/2=1.78/2=0.89

Q.Weighted Average of Precision:

Ans: To standardize data

((Precision(Buyers)\*No of Buyers)/Total Users)+ ((Precision(Non-Buyers)\*No of Non-Buyers)/Total Users ))

ie,

(0.88\*53/134)+(0.9\*81/134)=0.35+0.54=0.89

Q.Marco-average of Recall:

Ans:Average of Recall = (0.93+0.85)/2=1.78/2=0.89

Q.Weighted Average of Recall:

Ans: To standardize data

((Recall (Buyers)\*No of Buyers)/Total Users)+ ((Recall (Non-Buyers)\*No of Non-Buyers)/Total Users ))

ie,

(0.85\*53/134)+(0.93\*81/134)=0.34+0.56=0.90

Q.Marco-average of F1 value:

Ans:Average of F1 value = (0.86+0.93)/2=1.79/2=0.895

Q.Weighted Average of F1 value:

Ans: To standardize data

((F1 value (Buyers)\*No of Buyers)/Total Users)+ ((F1 value (Non-Buyers)\*No of Non-Buyers)/Total Users ))

ie,

(0.86\*53/134)+(0.93\*81/134)0.34+0.56=0.9

Support Vector Machine

Q.What is the percentage of correct classification of both with respect to total data?

Ans.Accuracy is (78+20)/( 78+20+33+3) = 98/134 =0.73

Q.What is the percentage of correct classification of non-buyers with respect to total non-buyers?

Ans.Recall of non-buyers

ie,

(78)/( 78+3)=>0.96

Q.What is the percentage of correct classification of buyers with respect to total buyers?

Ans.Recall of buyers

ie,

(20)/( 53)=>0.38

Q.What is the percentage of correct classification of non-buyers with respect to all classification of non-buyers?

Ans. Precision of non-buyers

ie,

(78)/( 78+33)=>0.70

Q. What is the percentage of correct classification of buyers with respect to all classification of buyers?

Ans.Precision of buyers

ie,

(20)/( 20+3)=>0.87

F1 value of Buyers = 2\*precision\*accuracy/recall+precison = 2\*0.87\*0.37/(0.87+.37)=0.644/1.24=0.52

F1 value of Non Buyers = 2\*precision\*accuracy/recall+precison = 2\*0.7\*0.96/(0.7+.96)=1.344/1.66=0.81

Q.Marco-average of Precision:

Ans:Average of Precision = (0.87+0.70)/2=1.57/2=0.79

Q.Weighted Average of Precision:

Ans: To standardize data

((Precision(Buyers)\*No of Buyers)/Total Users)+ ((Precision(Non-Buyers)\*No of Non-Buyers)/Total Users ))

ie,

(0.87\*53/134)+(0.70\*81/134)=0.34+0.42=0.76

Q.Marco-average of Recall:

Ans:Average of Recall = (0.96+0.38)/2=1.34/2=0.67

Q.Weighted Average of Recall:

Ans: To standardize data

((Recall (Buyers)\*No of Buyers)/Total Users)+ ((Recall (Non-Buyers)\*No of Non-Buyers)/Total Users ))

ie,

(0.38\*53/134)+(0.96\*81/134)=0.15+0.58=0.73

Q.Marco-average of F1 value:

Ans:Average of F1 value = (0.52+0.81)/2=1.33/2=0.67

Q.Weighted Average of F1 value:

Ans: To standardize data

((F1 value (Buyers)\*No of Buyers)/Total Users)+ ((F1 value (Non-Buyers)\*No of Non-Buyers)/Total Users ))

ie,

(0.52\*53/134)+(0.81\*81/134)=0.21+0.49=0.7