Classification\_metrics

A black background with white text

Description automatically generated

A screenshot of a computer screen

Description automatically generated

What is the accuracy of correct classification of both purchased and not purchased?

=T(Apple)+T(orange)

T(Apple)+T(Orange)+F(Apple)+F(Orange)

=53+6/53+6+53+8

=0.49

Recall

What is the percentage of correct classification of purchased to the total input of purchased in the test set?

=T(Purchased)

T(Purchased)+F(purchased)

=53/53+53=

=0.50

What is the percentage of correct classification of not purchased to the total input of purchased in the test set?

=T(Not purchased)

T(Not purchased) +F(Not purchased)

=6/6+8

=0.42

Precision

What is the percentage of correct classification and wrongly classify in the test set?

= T(Purchased)

T(Purchased)+F(Not Purchased)

=53/53+8

=0.86

What is the percentage of correct classification and wrongly classify in the test set for purchased?

=T(Not Purchased)

T(Not Purchased)+F(purchased)

=6/53+6

=0.10

F1-score

What is the average performance of F1 measure for purchased

=2\* Precision\*Recall

Precision+Recall

=2\*0.50\*0.80

0.50\*0.80

=0.63

What is the average performance of F1 measure for Not purchased

=2\* Precision\*Recall

Precision+Recall

= 2\* 0.42\*0.10

0.42\*0.10

=0.16

Macro Average

What is the average performance of precision?

=Precision(purchased)+Precision(not Purchased)

2

=0.86+0.10

2

=0.48

What is the average performance of precall?

= Recall(Purchased)+Recall(Not Purchased)

2

=0.50+0.42

2

=0.46

What is the average performance of F1-score?

=F1(Purchased)+F1(Not purchased)

2

=0.63+0.16

2

=0.39.5

Weighted average

What is the sum of the product of precision weighted average

=Precision(Purchased)(210/400)+Precision(Not purchased)(190/400)

= 0.78

What is the sum of the product of recall weighted average

=Recall( Purchased)(210/400)+Recall (Not purchased)(190/400)

=0.49

What is the sum of the product of F1-score weighted average

=F1 score (Purchased)(210/400)+]F1 score(Not purchased)(190/400)

=0.58