

Decision Tree: When $K = 1$

Accuracy:= 0.8233982157339822

Confusion Matrix:=

[[3760 419]

[452 301]]

Correct: 4061

Incorrect: 871

True Positive Rate: 39.97%

True Negative Rate: 89.97%

Decision Tree: When $K = 3$

Accuracy:= 0.8538118410381184

Confusion Matrix:=

[[3970 209]

[512 241]]

Correct: 4211

Incorrect: 721

True Positive Rate: 32.01%

True Negative Rate: 95.00%

Discussion of results:

We can see that when we used $K = 3$ it gives us a better accuracy than $K = 1$ using this training data. And this is because we have a higher number of correct predictions in $K = 3$ than $K = 1$.