APRIL 8, 2021

ASSIGNMENT 3

DATA MINING AND ANALYTICS

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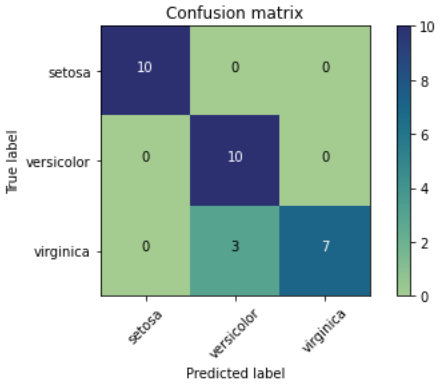
Problem 3 Accuracies and Confusion matrix for each parameter

(1)

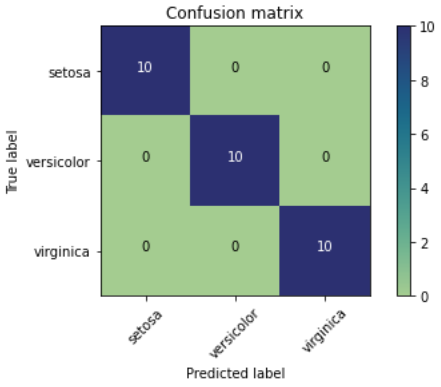
r	k	Accuracy
1	3	90
2	3	100
4	3	100
1	5	86.67
2	5	90
4	5	90
1	7	80
2	7	83.33
4	7	86.67

Confusion Matrix:

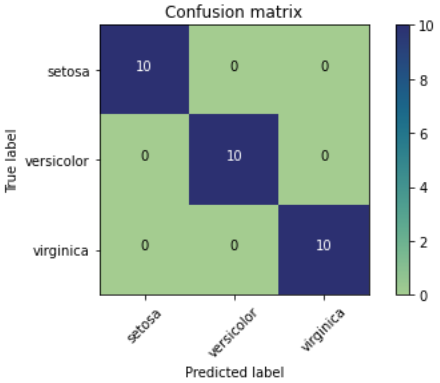
K = 3, r = 1



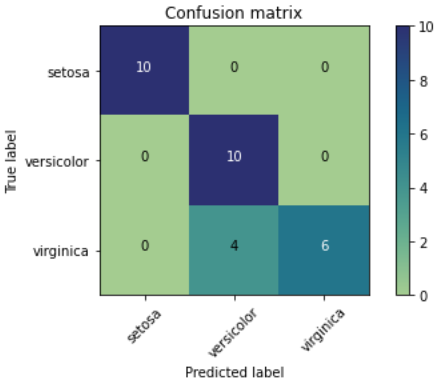
K = 3, r = 2



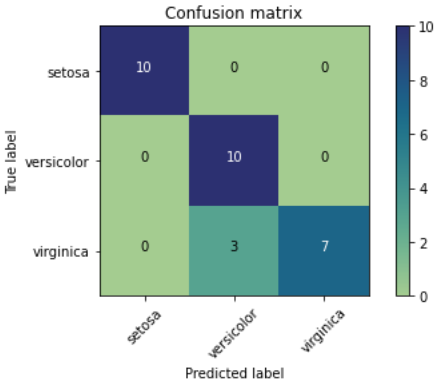
K = 3, r = 4



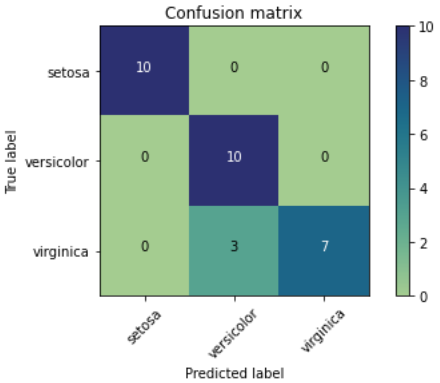
K = 5, r = 1



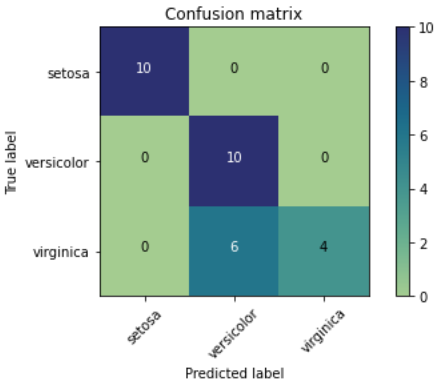
K = 5, r = 2



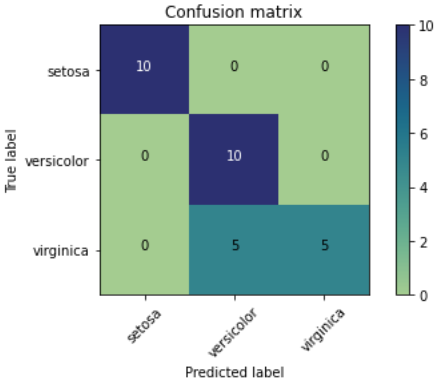
K = 5, r = 4



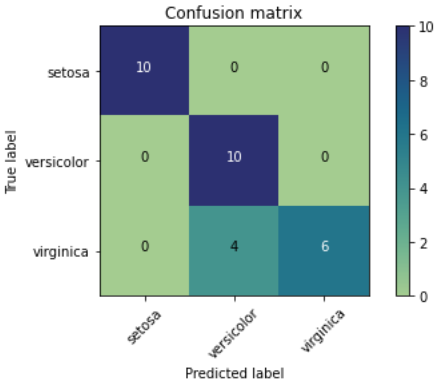
K = 7, r = 1



K = 7, r = 2



K = 7, r = 4



2) Accuracy for each class at each parameter

For Setosa (Class=0)

r	k	Accuracy
1	3	100
2	3	100
4	3	100
1	5	100
2	5	100
4	5	100
1	7	100
2	7	100
4	7	100

For Versicolor

r	k	Accuracy
1	3	100
2	3	100
4	3	100
1	5	100
2	5	100
4	5	100
1	7	100
2	7	100
4	7	100

For Virginica

r	k	Accuracy
1	3	100
2	3	100
4	3	100
1	5	100
2	5	100
4	5	100
1	7	100
2	7	100
4	7	100

3) Model performs well at K = 3, r = 2 and K = 3, r = 4 and gives 100% accuracy and identify all classes correctly.

Problem 4)

Decision Tree

Classification Accuracy	93
Sensitivity	0.86
Specificity	1.0

Model performs well and identifies all correct labels for Versicolor (class=1)