Assignment III

CMP5130 (1) Machine Learning and Pattern Recognition 20/21 (3)

Ahmet Ali Beylihan - 2018021

Bahcesehir University

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1. Decision Tree Classification

Firstly, bill authentication dataset is split as 30% test data. In the second step, standard scaler is applied. In the last step, model created and the model accuracy score with criterion gini index is 0.9757.

Table 1: Confusion Matrix for Decision Tree Classification

Confusion Matrix		
	Predicted 0	**Predicted 1**
Actual Class 0	226	9
Actual Class 1	1	176

According to confusion matrix, we have 412 test instances and the our algorithm misclassified 10 instances.By the way accuracy is 97.6%.
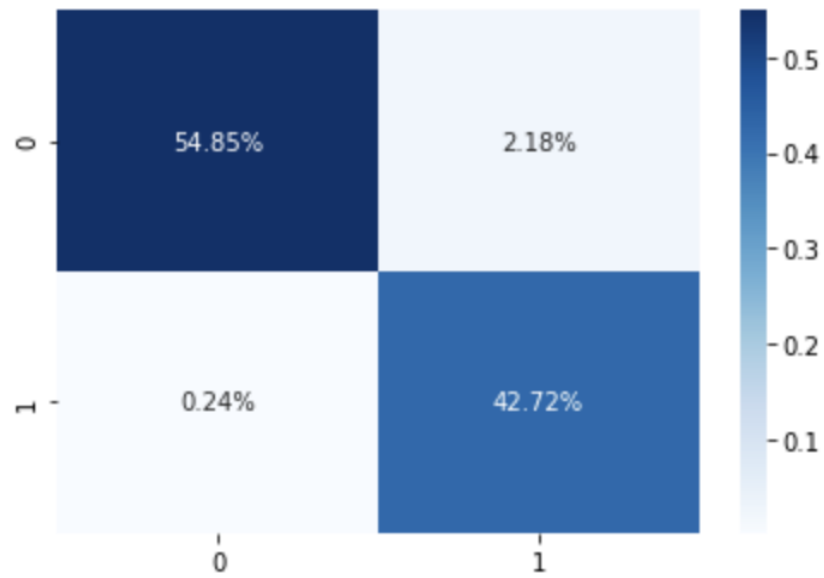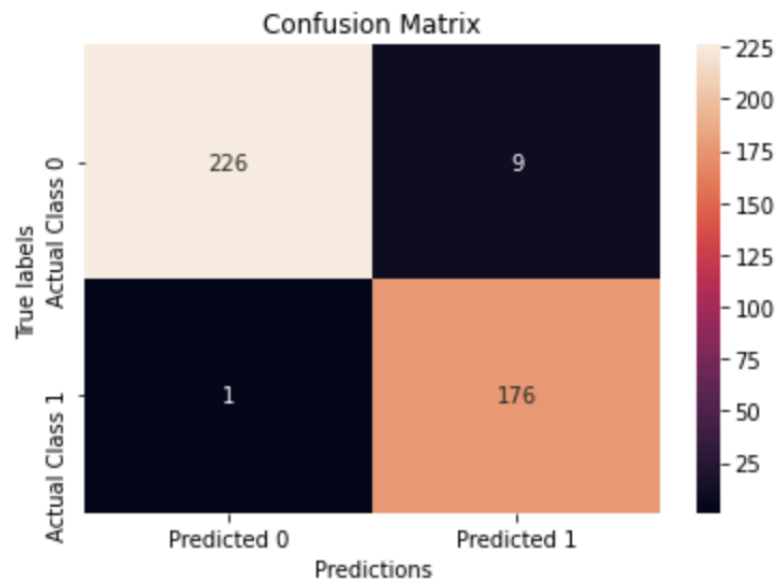
Figure 1: Confusion Matrix Plot

Figure 2: Confusion Matrix Plot

Table 2: Classification Report for Decision Tree Classification

Classification Report				
	precision	recall	f1-score	support
0	1.00	0.96	0.98	235
1	0.95	0.99	0.97	177
accuracy			0.98	412
macro avg	0.97	0.98	0.98	412
weighted avg	0.98	0.98	0.98	412