
ASSIGNMENT 03

PATTERN RECOGNITION
CS 6690

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Problem 1: GMMs for Real Data

Classification of Real data based on the generated Gaussian Mixture Model gave 30% accuracy.

Problem 2: GMMs for Synthetic Data

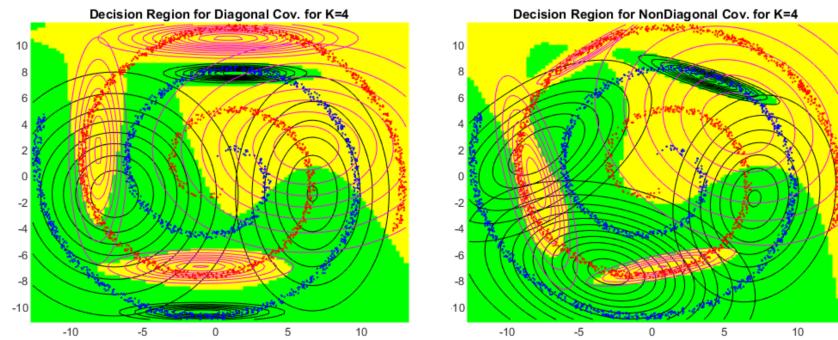


Figure 1: Using K = 4

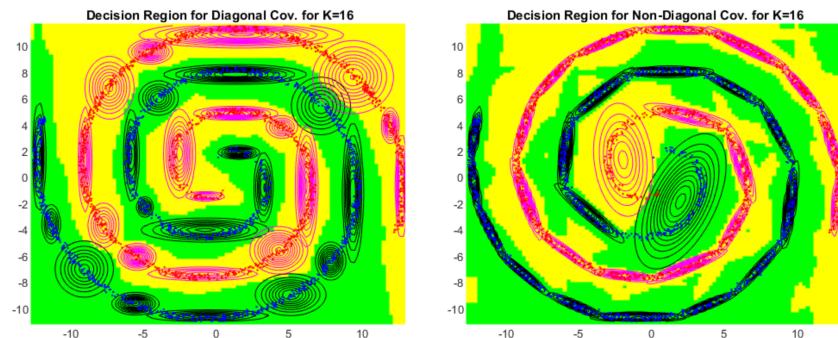


Figure 2: Using K = 16

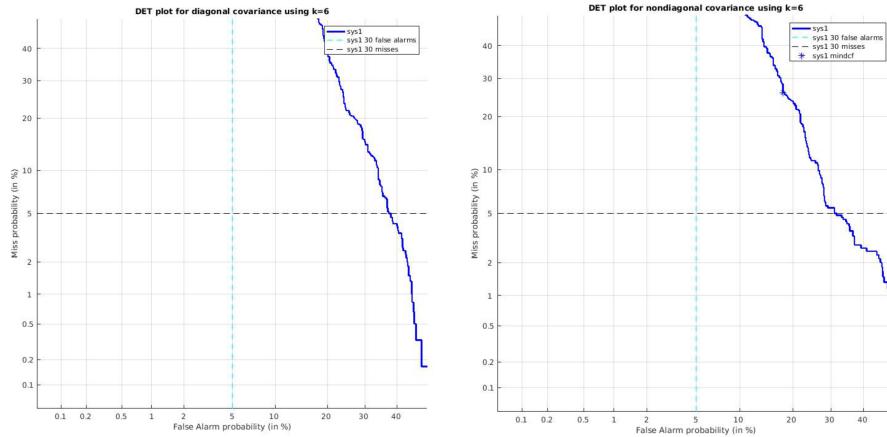


Figure 3: DET Curve using K = 6

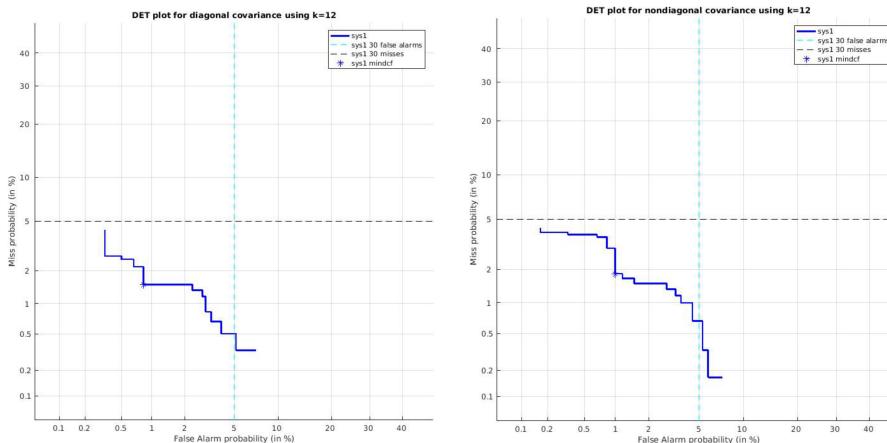


Figure 4: DET Curve using K = 12

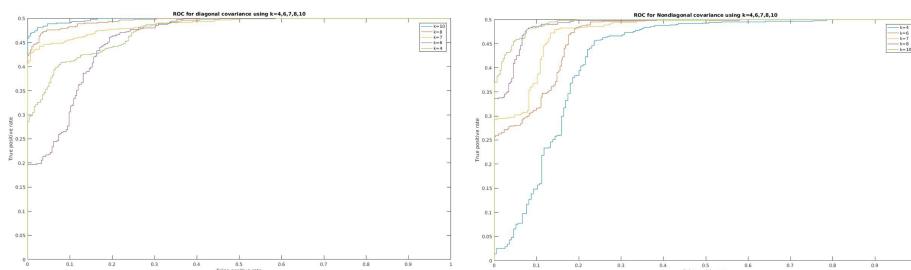


Figure 5: ROC Curve

Table 1: K Vs Accuracy

K	Non-Diagonal Accuracy	Diagonal Accuracy
14	100	100
12	100	100
10	99.7	98
8	96	96.2
6	94	95.3