

ASSIGNMENT 2

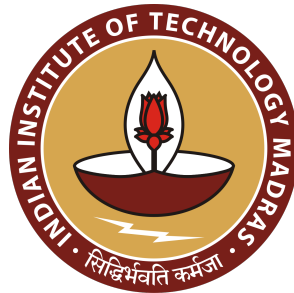
CS5691 Pattern Recognition and Machine Learning

CS5691 Assignment 2

Team Members:

BE17B007	N Sowmya Manojna
PH17B010	Thakkar Riya Anandbhai
PH17B011	Chaithanya Krishna Moorthy

Indian Institute of Technology, Madras



Contents

1	Dataset 1A	2
1.1	K-nearest Neighbors Classifier	2
1.2	Naive-Bayes classifier	2
1.2.1	Same Covariance Matrix ($\sigma^2 I$)	2
1.2.2	Same Covariance Matrix (C)	2
1.2.3	Different Covariance Matrix	2
2	Dataset 1B	2
2.1	K-nearest Neighbors Classifier	2
2.2	Bayes Classifier, GMM, full covariance	2
2.3	Bayes Classifier, GMM, diagonal covariance	2
2.4	Bayes Classifier, KNN	2
3	Dataset 2A	2
3.1	Bayes Classifier, GMM, full covariance	2
3.2	Bayes Classifier, GMM, diagonal covariance	2
4	Dataset 2B	2
4.1	Bayes Classifier, GMM, full covariance	2
4.2	Bayes Classifier, GMM, diagonal covariance	2

1 Dataset 1A

1.1 K-nearest Neighbors Classifier

1.2 Naive-Bayes classifier

1.2.1 Same Covariance Matrix ($\sigma^2 I$)

1.2.2 Same Covariance Matrix (C)

1.2.3 Different Covariance Matrix

2 Dataset 1B

2.1 K-nearest Neighbors Classifier

2.2 Bayes Classifier, GMM, full covariance

2.3 Bayes Classifier, GMM, diagonal covariance

2.4 Bayes Classifier, KNN

3 Dataset 2A

3.1 Bayes Classifier, GMM, full covariance

3.2 Bayes Classifier, GMM, diagonal covariance

4 Dataset 2B

4.1 Bayes Classifier, GMM, full covariance

4.2 Bayes Classifier, GMM, diagonal covariance