

Homework 10, due March 30th, 11:59pm

March 23, 2022

In this homework, you are required to include in your report the code that you implemented. If you use some code from the web or package, also mention in your report the origin of the code.

1. Implement the EM algorithm for clustering with multivariate Gaussian models discussed in the LearningGM section. Initialize the algorithm with the K-means result (for example Matlab provides a `kmeans` function). Plot the obtained clusters in different colors.

- a) The dataset `x1` (2 clusters). (1 point)
- b) The dataset `x2` (2 clusters). (2 points)
- c) The dataset `pts` (3 clusters). (1 point)

2. Now implement the spectral clustering algorithm and repeat the questions from problem 1. (4 points)