Practice 4. Parametric Classification

Grado en Ingeniería Informática – Reconocimiento de Patrones

Guillermo Bárcena González

EXERCISE 1: MINIMUM DISTANCE CLASSIFICATION

Initialize seeds (rand and randn) random generator numbers to 0, generate two classes of 1000 elements each one using randnorm, the first with mean [0, 0] and covariance matrix $C = [1 \ 0.8; \ 0.8 \ 2]$ and the second with mean [3, 3] and $C = [1 \ -0.9; \ -0.9 \ 2]$ and finally mix the data (use shuffle).

- a) Decode a minimum distance classifier with the first 1600 data.
- b) Perform the previous point using the Mahalanobis distance, and compare the results.
- c) How are the boundaries between the classes? Can you draw them?

