practical exercise sheet 5

Pattern Recognition

Winter Term 2019/2020
Prof. Dr. Hauke Schramm

Jule Martensen (924607)
Judith Wiedenbeck (stu107029)
Raphael Schwinger (stu122388)

January 5, 2020

Part B

In order to decide if we have to use a model with independent or dependent components we compute the covariance matrix. In both cases we get a diagonal matrix, so we use the model with independent components.
Figure 1 shows the distributions, with the modelled gaussian distributions and the decision boundary.

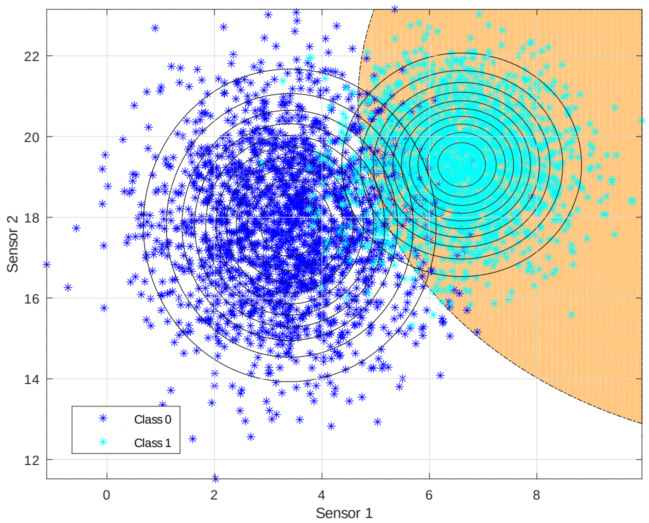

Figure 1: gaussian distributions and decision boundary.

Part C

Figures 2 and 3 show the 3D plots of the two likelihoods and the posterior probabilities, respectively.

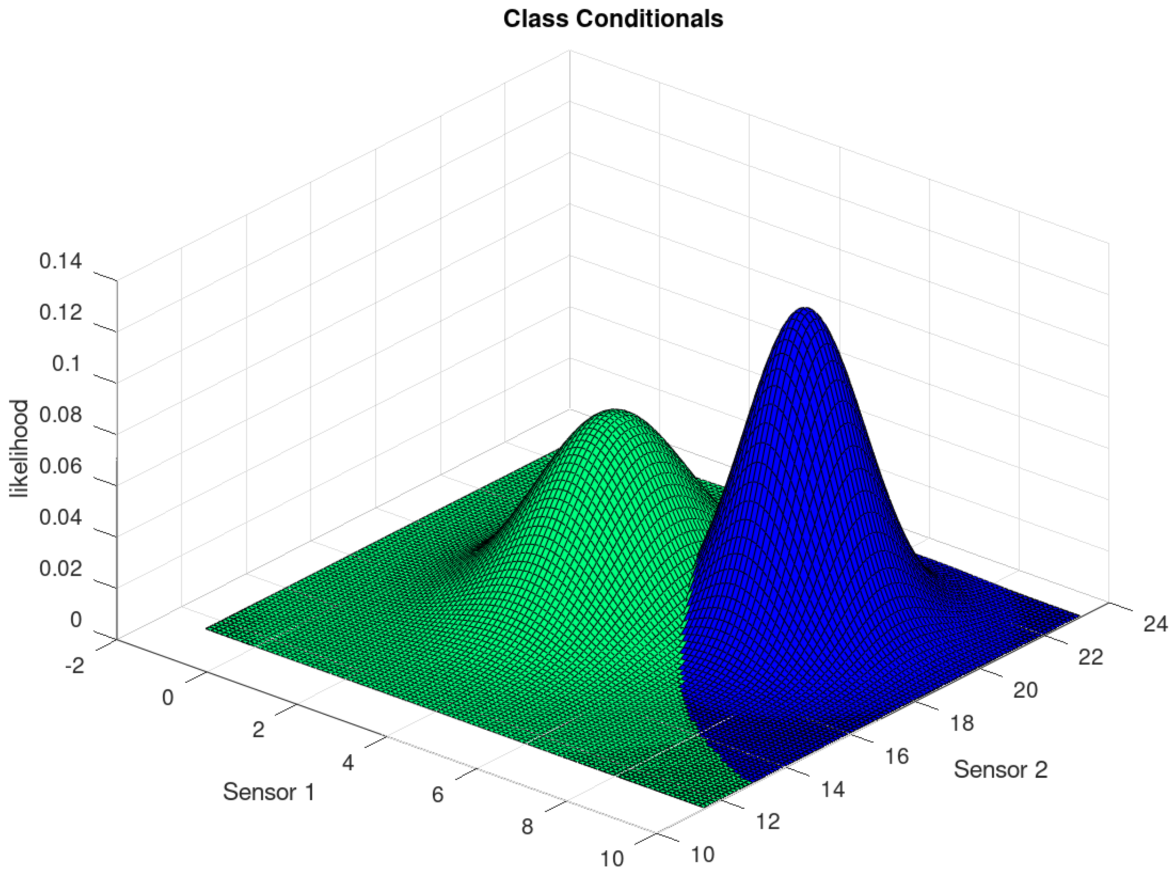

Figure 2: decision regions

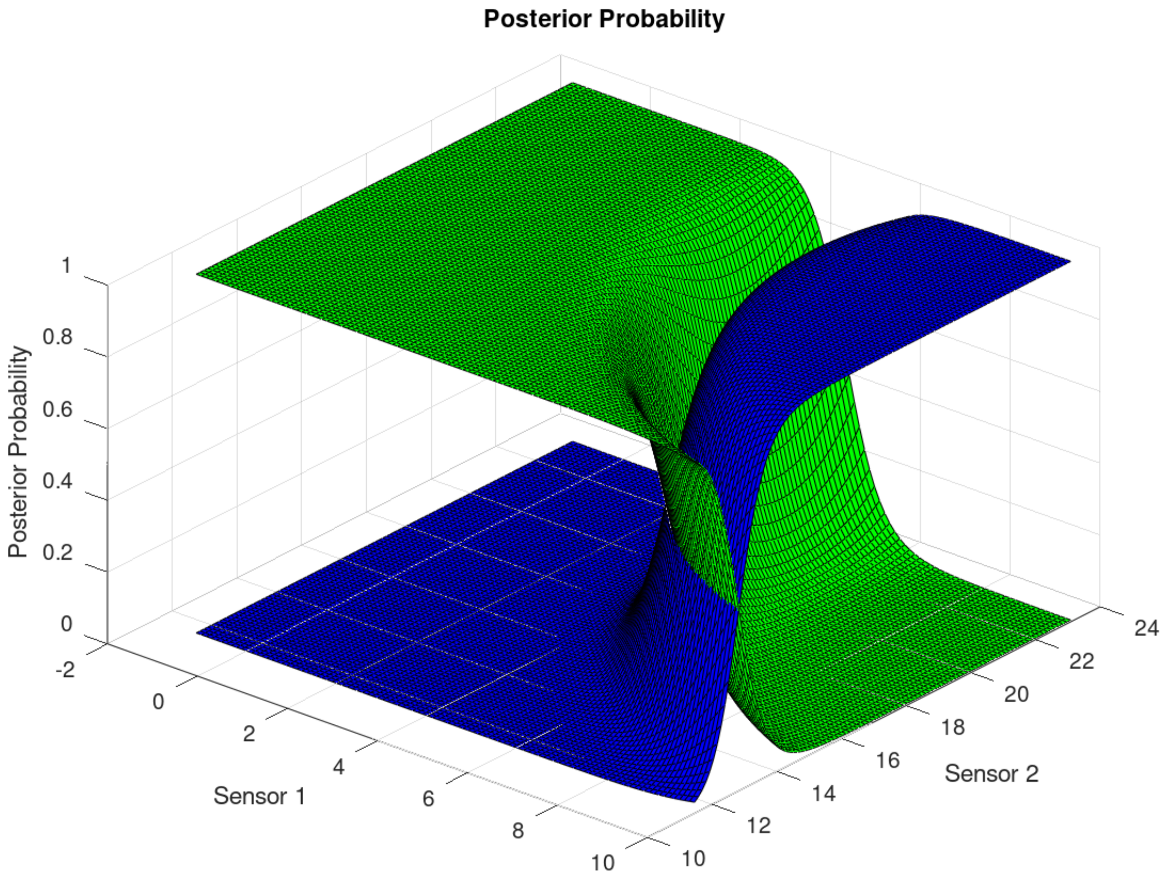

Figure 3: posterior probability