

Exercises and Labs 10 for Lecture “Authentication „ (M.Sc.)

Lab 10 Consider datasets *xyz.dat* provided previously.

Corresponding scripts are *xyz_load.m*

You might also consider other datasets of your choice.

Consider initial classifier *SVM* for the datasets (notice, that the initial *LDA* is suitable as initial classifier; in general, all kinds of hyperplane classifiers are suitable here).

- a) Calculate refinement of initial classifier with respect to *MIN/MAX* rule and compare margins of initial classifier and refinement.
- b) Analyse the accuracy of initial classifier and refinement from the part a) based on *F*-measures.
- c) Iterate *MIN/MAX* rule and analyse if further improvement of classification accuracy can be achieved.

Remark: You will find useful information for this lab in the following publication:

Dörksen, H.; Lohweg, V.: Margin-based Refinement for Support-Vector-Machine Classification. Proceedings of 6th International Conference on Pattern Recognition Applications and Methods (ICPRAM 2017), Porto, Portugal, 2017.