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SGN-2556 Pattern Recognition, 5 cr

Exam 3: 17.09.2012/J. Vihonen and A. Visa

No calculators are allowed

- 1) Explain briefly a) the concept of discriminability, b) Neyman-Pearson Criterion, and c) ROC analysis in the context of signal detection theory. (6p)
- 2) It is essential to use a priori information in pattern recognition. How this can be done by using Fuzzy Logic? Describe your approach. Discuss the pros and cons concerning your approach. (6p)
- 3) You have 2000 labeled samples for training and testing. How do you evaluate the accuracy of the classifier? Motivate your answer. (6p)
- 4) Compare two unsupervised pattern classification methods: the clustering and the maximum likelihood-based learning in the case when a large number of samples are available. (6p)