

Lecture “Statistical Classification”

WS 2015/2016

Type	Schedule / Room	Start	Instructor
V4/3	für Master SSE, Master MI/ für Bachelor		Prof. Dr.-Ing. H. Ney Dr.rer.nat R. Schlüter
Ü2	Mo 10 ¹⁵ -11 ⁴⁵ Aula 2	19.10.	
	Mi 10 ¹⁵ -11 ⁴⁵ Aula 2	21.10.	
	Do 12 ¹⁵ -13 ⁴⁵ 5055	22.10.	

Content:

The lecture gives an introduction into statistical pattern recognition and discusses also artificial neural networks and their relation to statistical classifiers Main topics are:

- statistical basics
- training and learning
- model-free approaches
- artificial neural networks and discriminative training
- error integrals: properties and estimation
- mixture densities and cluster analysis
- EM algorithm and hidden markov models
- feature extractions and linear transformations

Assignment:

Applied Computer Science or Field of Specialization.

Requirements:

knowledge on probability calculus / statistics

Language of instruction:

Deutsch/English

References:

- R. O. Duda, P. E. Hart, D. G. Stork: “Pattern Classification” 2nd ed., J. Wiley & Sons, New York, NY, 2001.
- K. Fukunaga: “Introduction to Statistical Pattern Recognition”, Academic Press, San Diego, CA, 1990.
- B. D. Ripley: “Pattern Recognition and Neural Networks”, Cambridge University Press, Cambridge, UK, 1996.
- C. M. Bishop: “Neural Networks for Pattern Recognition”, Oxford University Press, Oxford, UK, 1995.
- H. A. Bourlard, N. Morgan: “Connectionist Speech Recognition”, Kluwer Academic Publishers, Boston, MA, 1994.

Others:

The Lehrstuhl also offers a seminar and a practical course. During both activities topics from speech and image object recognition are treated.

Enquiries to:

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