Laboratory Course for Main Studies
"Automatic Speech Recognition"
WS 2015/16

Type	Schedule / Room	Start	Instructor
Ü2	by arrangement / terminal room Lehrstuhl Informatik 6	1st meeting: follow announcem.	Prof. Dr.–Ing. H. Ney, Dr. rer.nat. R. Schlüter Chr. Oberdörfer & E. Beck

Content:

The course covers the implementation of a complete speech recognition system in C/C++ that converts recordings of human speech into a textual representation. To this end we implement the extraction of usefull features from the input signal to reduce the dimensionality of the data. We use statistical methods to train an acoustic model that links the acoustic characteristics of a speech signal to the spoken words. Based on the state-of-the-art speech recognition software of the chair, we will implement a fast variant of a dynamic search method. The performance of the trained model and the search algorithm will be evaluated on a real-world ASR task.

Module:

Applied Computer Science

Requirements:

- This course is aimed at Master students
- It is strongly suggested to attend the lecture "Introduction to Automatic Speech Recognition" that is offered in parallel with the lab course.
- Practical experience with the programming languages C/C++ are required.
- If an exam was passed in "Introduction to Statistical Classification", "Introduction to Automatic Speech Recognition", or "Introduction to Statistical Methods in Natural Language Processing", the participation in the lab is guaranteed.

References:

Lecture notes und References from lecture "Introduction to Automatic Speech Recognition" and "Advanced Methods in Automatic Speech Recognition"

Recurrence:

Each winter term.

Others:

The **first meeting** will take place at the beginning of the term in the seminar room of the Lehrstuhl für Informatik 6.

The lab course will take place during the term and not as a block at the end of the term. Among others its goal is to introduce candidates of hiwi-jobs and bachelor/master thesises to the methods used at the Lehrstuhl für Informatik 6.

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