COURSE DETAIL

LANGUAGE TECHNOLOGY

Country
Sweden

Host Institution
Lund University

Program(s)
Lund University

UCEAP Course Level
Upper Division

UCEAP Subject Area(s)
Computer Science

UCEAP Course Number
130

UCEAP Course Suffix

UCEAP Official Title
LANGUAGE TECHNOLOGY

UCEAP Transcript Title
LANGUAGE TECHNOLOGY

UCEAP Quarter Units
6.00

UCEAP Semester Units
4.00

Course Description

The course introduces theories and techniques of natural language processing and language technology. It covers the whole field, from speech recognition and synthesis to semantics and dialogue. The course focuses on industrial and laboratory applications, such as document retrieval on the Internet, information extraction, conversational agents, and verbal interaction in virtual worlds. Fundamental algorithms are described using Prolog or regular expressions. Topics covered in this course include an overview of language processing (applications, disciplines of linguistics, examples); Corpus and word processing (regular expressions, automata, an introduction to Perl, concordances, tokenization, counting words, collocations); morphology, transducers, and part-of-speech tagging; Prolog to write phrase-structure grammars (constituents, trees, using Prolog to do natural language analysis, DCG rules, variables, getting the syntactic structure, compositional analysis to get the semantic structure); syntactic formalisms (constituency and dependency, chart parsing, statistical parsing, functions, dependency parsing); semantics (formal semantics, lambda-calculus, compositionality such as nouns, verbs, determiners, words and meaning, lexical semantics, case grammars, semantic grammars); discourse and dialogue (rhetoric, anaphora, structure, RST, automata, pairs, speech acts, multimodality); and an overview of speech synthesis and speech recognition.

Language(s) of Instruction
English

Host Institution Course Number
EDAN20

Host Institution Course Title
LANGUAGE TECHNOLOGY

Host Institution Campus

Host Institution Faculty
Engineering

Host Institution Degree

Host Institution Department
Engineering- Computer Science

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