



FDT3151 Conversational Systems 7.5 credits

Konverserande system

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

Course syllabus for FDT3151 valid from Autumn 2020

Grading scale

P, F

Education cycle

Third cycle

Specific prerequisites

Doctoral students from EECS

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

After the course, the student should be able to:

- Describe different state-of-the-art models for conversational systems, their weaknesses and strengths, and apply a suitable model depending on the application
- Implement a conversational system using rule-based frameworks and deep learning
- Identify research topics related to conversational systems, find relevant literature, develop a research plan, and execute the research project

Course contents

The course consists of five lectures, three laboratory sessions, and a final project done individually or in groups. The project is presented at a project pitch and during a final seminar. In the laboratory sessions, we will use different platforms for building conversational systems (including graphical tools, social robotics and deep learning).

The lectures will cover the following topics:

- Introduction to conversational systems. Historical perspective. Overview of speech and language technology components.
- Theories of conversation. Semantics and pragmatics of dialog. Psycholinguistic perspectives.
- Natural language understanding. Grammar-based and data-driven approaches. Visual language grounding.
- Dialog management. Chat- and task-oriented dialog. Rule-based and neural models. Reinforcement learning.
- Multi-modal conversation, Social signals and Social robotics.

Examination

- EXA1 - Written examination, 7.5 credits, grading scale: P, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

If the course is discontinued, students may request to be examined during the following two academic years.

Other requirements for final grade

All lectures, exercises and project seminar attended. Approved project report.

Ethical approach

- All members of a group are responsible for the group's work.

- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.