SS 2015

Social Robotics Seminar

Welcome!

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SS 2015

**Social Robotics Seminar**

**Contents**

- Brief presentation of the Social Robotics Lab
- Introduction
- How to conduct a literature review
- How to read a paper
- Presentations of the papers
Social robotics and human-robot interaction are growing research fields concerned with the questions how humans and robots can better live, work, and interact together.

Research areas:
- Perception of humans
- Human behavior modeling and learning
- Task and motion planning among humans
- Design of human-robot-interfaces
- Understanding human-robot interaction

In other words: “the human is in the loop“

Methods from robotics are combined with models, methodologies and insights from social psychology, cognitive science and HCI.
People Detection and Tracking
People Detection and Tracking
Emotional Body Language for HRI

emotion start
Learn how to cover an inhabited environment with minimal interference

- Spatio-temporal Poisson process model for human activities
- Approach: asymmetric TSP with time-dependent costs
- Applications: noisy vacuum robot, all coverage applications in human environments

Robot is in kids bedroom since at this time and place, encountering a human is improbable

It's around 8 pm, human agents are engaged into a dinner activity
Overview

- In this seminar, you will learn to search for, read, present and summarize scientific papers

- In this way, students
  - learn to conduct a literature survey
  - learn to understand and critically read a paper
  - learn about state-of-the-art methods in the field
  - learn to present and summarize a paper
  - improve their presentation and scientific writing skills

- Language: English

- The seminar is restricted to 10 students. First come, first serve.

- There are more students on the waiting list. Make up your mind.
Requirements

• In the area of your paper, conduct a small literature review
• Present your paper and the results of the literature review in a 30 min. talk
• Blockseminar
  • Attend the Blockseminar and actively participate in the discussions
  • Read all presented papers (also those of the other students!) in a quick "first-pass" fashion (see below).

• Write a summary about your assigned paper (<= 7 pages). The report should contain a section with the results of the literature review. This section should contain answers to the questions on slide nr. 17
• The final grade is a combination of four factors:
  • literature review (20%), presentation (30%), summary report (30%), active participation during the Blockseminar (20%)
• Talk and summary can either be in German or English
Hints for a good grade

• Some papers are easier, some are more difficult. For the sake of fairness, additional work and a particular deep understanding is expected for easy papers.

• Additional work may include:
  • Implementing a method
  • Submitting additional material such as self-made animations
  • Explain a theory or method very well, as a mini-tutorial
  • Reading more related papers (e.g. earlier work from the same authors, more related papers, etc.) and show that you

• Make your presentation exciting, try to convince the audience of the quality and contribution of your paper
  • Use the videos and other material from the authors
  • Add your own material (graphs, animations, etc.)
Hints for a good grade

• Unethical behavior will result in a grade of 5.0
  • Examples include copying text, slides, material for your summary report or presentation from sources without proper citation
  • Wikipedia is not a serious scientific reference. Rare exceptions may apply
  • It has neven been easier to detect plagarism

• Plan accordingly! Avoid last-minute stress
  • Understanding a short 6-page paper will very probably require you to study (or even implement) several other papers (of the same authors, papers about the underlying theories)
  • This will easily take you several weeks of work
Introduction

Organization

• **Today:** Introduction, short presentation of the papers

• **Friday, 8 May 2015:** Assignment of the papers to the students

• **Monday, 13 July 2015:** First version of the slides and the report must be sent to the supervisor

• **Monday, 27 July 2015:** Blockseminar in which all papers are presented and discussed

• **Friday, 31 July 2013:** Final version of the report has to be submitted to the supervisor.

See also: srl.informatik.uni-freiburg.de/ss15seminarsocialrobotics