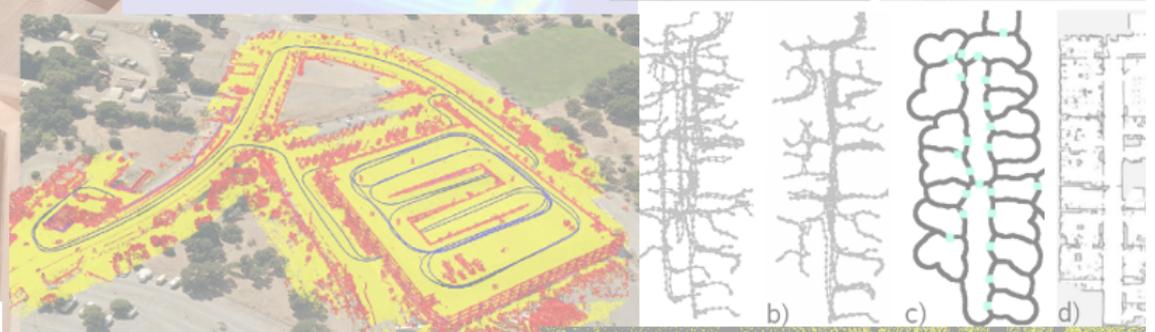


Linköping - Freiburg Workshop on Learning World Models

Linköping University, Linköping, Sweden, June 21-22, 2010



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Constructing a model of the environment and estimating the parameters of the model such that they reflect some real world configuration are tasks common to several application domains. These include: robotics, cartography, entertainment, tracking and many others. The level of abstraction at which the model is constructed and the techniques used to estimate its parameters depend on the specific application.

This workshop aims to bring together people from different groups (both universities and companies) that are active in this context and that are willing to exchange ideas and opinions about their approaches. We look forward to the construction of fruitful collaborations and at establishing various interest groups. Different levels of collaboration are possible, ranging from sharing data to defining and solving new problems.

The workshop lasts two days. During the **first day** there will be an invited lecture, some of the groups will introduce themselves and we will enjoy research talks of approximately 20 minutes each (15 min presentation and 5 min questions/discussion). To this end, we encourage everyone who plans to attend the workshop to provide us with a title and an abstract of a potential talk that he/she would like to give. These abstracts will then be made available to all participants, who will have the possibility of ranking the abstracts according to their interest. The most popular contributions will then be selected for presentation. We encourage the participants to submit novel and ongoing ideas, since the main goal of this workshop is to stimulate research discussions. Potential topics include:

- Building maps from sensor data
- Map aided navigation and positioning
- The SLAM problem
- Sensor fusion
- Object Detection/Learning
- Target tracking

The **second day** will begin with a lab tour of the Linköping University indoor UAV lab hosted by the Department of Computer and Information Science. We will then continue the day by discussing research ideas and challenges to come up with joint-project/collaboration ideas, or simply to exchange experience.

Preliminary Program Overview

Monday, June 21

The workshop will be opened by an invited talk by Petter Torle (CTO at C3 Technologies). Subsequently, some of the different groups involved in the workshop will give short (10 min) overviews about the research that they pursue which is relevant to this workshop. Then we will have approximately 14 slots for selected research presentations.

Time	Activity
8.30 - 9.15	Invited talk by Petter Torle, CTO at C3 Technologies
9.15 - 10.00	Brief lab overviews
9.50 - 10.10	Coffee break
10.10 - 11.30	Contributed technical presentations (15 + 5 min)
11.30 - 12.30	Lunch
12.30 - 14.10	Contributed technical presentations (15 + 5 min)
14.10 - 15.20	Coffee break and start of group discussions
15.20 - 17.00	Contributed technical presentations (15 + 5 min)
19-	Dinner

Tuesday, June 22

The goal of the second day is to identify interesting challenges and research problems that might be topics for future collaboration.

Time	Activity
9.00 - 10.00	Indoor UAV lab demonstration
10.00 - 14.00	Discussions in groups
14.00 -	Room for further discussions and informal meetings

There will be coffee available during the discussions. Lunch will be available around 11.30.

Submitting a Research Statement and an Abstract

All participants are invited to submit a brief "research statement", containing the following information,

- Which research are you currently involved in
- Which research do you want to pursue during the coming 2 years
- A few representative references with clickable hyperlinks
- A clickable link to your home page.

The idea with this is that the participants can see who the other participants are and what their research interests are before the workshop takes place. To this end you can use the template files of Thomas or Giorgio (`profile*.tex`), which are available for download from the workshop homepage.

Organization and More Information

Thomas Schön (schon@isy.liu.se), Division of Automatic Control, Linköping University.

Giorgio Grisetti (grisetti@informatik.uni-freiburg.de), Autonomous Intelligent Systems Lab, Freiburg University.

Local organizers (Christian Lundquist, Karl Granström, Åsa Karmelind and Thomas Schön)

Workshop webpage is available at <http://www.cadics.isy.liu.se/?page=wslwm>. This web page contains more information and registration details.

Important Deadlines

Submission of research statement and abstract: **June 3, 2010.**

Registration: **June 3, 2010.**