Curriculum Vitae for Thomas Dall Larsen

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Personal Data

Born: 21st August 1970.
Nationality: Danish.
Marital status: Unmarried. No children.
Language skills:
- Fluent: Danish, English.
- Basic: German, French.

Computer skills:
- Systems: Unix, DOS, Windows, OS-9.
- Languages: C, C++, Pascal, VRML, Java, Matlab.
- Tools: LaTeX, Microsoft Office, Simulink, Stateflow, Cosmo Worlds.

Profile

Has 4 years of experience in the field of robotics. Has primarily dealt with robot vision, signal processing, estimation, identification, control, real-time software, simulation and visualization. Experienced in supervising students and research projects. Excellent communication and people skills.

Education

1998 Received a Ph.D. in "*Optimal Fusion of Sensors*" from the Technical University of Denmark (DTU). The thesis dealt with the problem of combining delayed and noisy signals from disparate sources. The well known Kalman filter was augmented with new methods for contemplating delays, calibration errors and noise and successfully implemented and tested on an autonomous mobile robot.

1995 Became a Master of Science in Electrical Engineering at DTU. GA: 10.8/13 (**A** on the ECTS scale). Title of the masters thesis: "*Vision Based Robot Control*". G: 11/13 (**A** on the ECTS scale). A 3 degree of freedom robot was controlled using vision and configured to play Checkers on a real board with human opponents. The Checkers player was exhibited for 3 days at an education symposium in Copenhagen, playing against members of the audience including the Danish Minister of Education.

1990 National service in the Danish military at the artillery in Skive (G: A1/A1).

1989 High School degree in mathematics and physics. GA: 10.4/13 (**B+** on the ECTS scale).

Professional Employment

1998- Associate research professor in Electrical Engineering at the Department of Automation at DTU. Working as a part of the EC project EURODOCKER (Contract No. MAS3-CT97-0084) in close cooperation with Italian, German and French partners. Has designed and implemented a real-time simulation/visualization tool for an autonomous underwater vehicle. The simulation is done in Matlab/C, and the visualization in Java/VRML. All communication is performed using sockets, enabling different parts of the simulator/visualizer to be distributed to different machines on the Internet.

-1998 Teaching assistant in various courses in electronics and control theory.

-1995 Various manual jobs (maintenance, assembly, cleaning, etc.).

Professional Activities

1999 Chairman of the session "Mobile Robot and Vehicle Control" at CCA'99.

1998 Chairman of the session "Robot Sensor Fusion and Localization" at ICARCV'98.

1998 Invited speaker at "Confederation of European Union Rectors' Conferences", Copenhagen.

1998 Invited speaker at the annual introduction meeting for new Ph.D students at DTU.

1998 Organizer of the annual RoboCup competition at DTU.

1998 Member of the Ph.D. Committee for Electrical Engineering at DTU.

1997 Guest speaker at the "Lund-Lyngby day of Control", Lyngby.

1996 Six months research stay at University of California at Berkeley. Worked within the PATH project which aims at automating US highways. Enhanced an existing car simulation tool (written in C++) with a filter, enabling cars to combine sensors to estimate the relative distance and speed to cars ahead.

Participation in Conferences

CCA'99 Conference on Control Applications, Hawaii.

CDC'98 Conference on Decision and Control, Florida.

ICARCV'98 International Conference on Control, Automation, Robotics and Vision, Singapore.

FUSION'98 International Conference on Multisource-Multisensor Information Fusion, Las Vegas.

MFI'96 International Conference on Multisensor Fusion and Integration, Washington DC.

CDC'95 Conference on Decision and Control, New Orleans.

Selected Publications

- *A New Approach for Kalman Filtering on Mobile Robots in the Presence of Uncertainties.* Thomas Dall Larsen, Nils A. Andersen & Ole Ravn. Proceedings of CCA'99.
- *Design of Kalman Filters for Mobile Robots; Evaluation of the Kinematic and Odometric Approach.* Thomas Dall Larsen, Karsten Lentfer Hansen, Nils A. Andersen & Ole Ravn. Proceedings of CCA'99.
- *Simulation and Animation in Simulink and VRML.* Ole Ravn, Thomas Dall Larsen & Nils A. Andersen. Proceedings of CACSD'99.
- *Optimal Fusion of Sensors.* Thomas Dall Larsen. Ph.D. dissertation, IAU, DTU 1998.
- *Incorporation of Time Delayed Measurements in a Discrete-time Kalman Filter.* Thomas Dall Larsen, Nils A. Andersen, Ole Ravn & Niels Kjølstad Poulsen. Proceedings of CDC'98.
- *Sensor Management for Identity Fusion on a Mobile Robot.* Thomas Dall Larsen, Nils A. Andersen & Ole Ravn. Proceedings of ICARCV'98.
- *Location Estimation for an Autonomously Guided Vehicle using an Augmented Kalman Filter to Autocalibrate the Odometry.* Thomas Dall Larsen, Martin Bak, Nils A. Andersen & Ole Ravn. Proceedings of FUSION'98.
- *Location Estimation using Delayed Measurements.* Martin Bak, Thomas Dall Larsen, Magnus Nørgaard, Nils A. Andersen, Ole Ravn & Niels Kjølstad Poulsen. Proceedings of AMC'98