

Personal information

Surname(s) / First name(s)

Address(es)

Telephone(s)

Email(s)

Nationality(-ies)

Date of birth

Gender

Occupational field

Summary

Work experience

Dates

Occupation or position held

Main activities

Name and address of employer

Dates

Occupation or position held

Main activities

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Dates

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Dates

Occupation or position held

Main activities

Grunnet, Jacob Deleuran

Augustenborggade 15, 3. th.
DK-8000 Århus (Denmark)

+45 61695769

grunnet@polytekniker.dk

Danish

May 25, 1981

Male

Control engineering and research, wind energy.



I'm an engineer/PhD who enjoys the challenges of analysing, designing and implementing control systems and achieving what was not possible before.

In general I'm very knowledge hungry and enjoy working on projects where I get the opportunity to set the bar a bit higher for the state of the art.

My current position as a control specialist at LAC engineering gives me the opportunity to develop high tech solutions for the wind energy industry.

May 2010 - present

Specialist Engineer, Control

Development of advanced control algorithms, aeroelastic codes and health monitoring algorithms.

LAC engineering, <http://www.LACengineering.com>.

July 2009 - May 2010

Post Doc

Completion of wind farm simulation benchmark for Aeolus, <http://ict-aeolus.eu>.

Section for Automation and Control, Department of Electronic Systems, Aalborg University, <http://www.control.aau.dk>.

December 2008 - June 2009

Research Assistant

Development of a Matlab control synthesis toolbox for hybrid games as part of Multi-Form. See <http://www.control.aau.dk/~grunnet/pahsctrl> and <http://ict-multiform.eu>.

Department of Computer Science, Aalborg University, <http://www.cs.aau.dk>.

September 2008 - December 2008

Stagair (trainee)

Development of fault tolerant satellite formation control algorithms as part of Ph.D. project.

TEC-ECN (Section for Guidance and Navigation), European Space Agency/ESTEC, Noordwijk, The Netherlands.

2006 - 2008

Lecturer

Frequency Domain Control: Teaching bachelor students control theory based on frequency domain techniques.

Introduction to Spacecraft Engineering: Teaching bachelor students the basics of designing (electronic) systems for space deployment.

Name and address of employer

Department of Electronic Systems, Aalborg University, <http://www.es.aau.dk>.

Dates

2000 - 2003

Occupation or position held

Partner in the interested party Laxity I/S

Main activities

Web design and software engineering.

Name and address of employer

Laxity I/S, Absalonsgade 34, 2. th, Aalborg 9000 (Denmark).

Education and training

Dates

December 2005 - October 2009

Title of qualification awarded

Doctor of Philosophy (Ph.D) in Electrical Engineering

Principal subjects

Thesis: Automated Controller Synthesis for non-Deterministic Piecewise-Affine Hybrid Systems.

I have gained knowledge in the following areas:

- Hybrid and discrete event systems.
- Fault tolerant control
- Independent research, covering problem formulation, literature surveys, algorithm design and documentation culminating in a thesis and a Matlab toolbox for control system design.
- Supervising bachelor students in control engineering.

Name of organisation providing education

The Doctoral School of Engineering, Science and Medicine, Aalborg University, <http://phd.ins.aau.dk>.

International classification

ISCED 6

Dates

September 2000 - August 2005

Title of qualification awarded

Master of Science in Engineering (M.Sc.E) - Control Engineering

Principal subjects

Thesis: Towards Autonomous Mobile Robots - Localisation, Mapping and Control.

I have gained knowledge in the following areas:

- Computer and Electrical Engineering.
- Control Theory (design, implementation and test).
- Project Management.
- Satellite systems.

Name of organisation providing education

Study Board for Electronics and Information Technology, Aalborg University, <http://www.esn.aau.dk>.

International classification

ISCED 5a

Dates

September 2003 - December 2003

Title of qualification awarded

Exchange student at McGill University

Principal subjects

Attended courses in robotics and spacecraft dynamics. Developed a real time communication system for a neutral-buoyancy robot used in a spacecraft robotics laboratory.

Name of organisation providing education

McGill University, Montreal, Canada, <http://www.mcgill.ca>.

International classification

ISCED 5a

Positions of Trust

Dates

2003-2004

Position

Student representative in the Technology and Innovation Committee of the Danish Society of Engineers (IDA) (Appointed), <http://www.ida.dk>.

Principal responsibilities

Observing and reporting the developments in the committee on behalf of the student society at AAU.

Dates

2002

Position

Member of Electronics and Information Technology Study Board (Elected), <http://www.esn.aau.dk>.

Principal responsibilities

Tending the interests of students at the computer and electrical engineering studies at AAU in matters of curriculum revision, appropriation and evaluation of teaching, and approval of study and exam dispensations.

Other Experience

Dates
Occupation or position held
Main activities

2003 - 2009
Systems Engineer on AAUSAT-II (Satellite)
Participant in development, testing, operational and management activities involving the student satellite AAUSAT-II. I Gained a lot of experience in large scale projects and development of hardware and software for space. The main areas include:
– Mission management and systems engineering.
– Satellite attitude control and determination.
– Spacecraft electronics and software.
– Mission operations: Software, testing, and commissioning.

Name of organisation

Student space group, Aalborg University, <http://space.aau.dk>.

Dates
Occupation or position held
Main activities

October - December 2004
Software Engineer Baumanetz (Satellite)
Low level communication software development for the on board computer used on the Russian student satellite Baumanetz.

Name of organisation

Student Space Group, Aalborg University, <http://space.aau.dk>.

Dates
Occupation or position held
Main activities

September - November 2004
Software Engineer SSETI-Express (Satellite)
Development of low level software for the European Space Agency financed SSETI-Express satellite. Primary focus was communication software for the on board computer.

Name of organisation

ESA Education department, European Space Agency/ESTEC, <http://www.esa.int/education>.

Dates
Occupation or position held
Main activities

Jan 2004 - July 2004
Experiment designer for ESA's student parabolic flight campaign 7
Development of hardware and software for a cubesat model used for testing an attitude control algorithm proposed for AAUSAT-II. Performing experiments on the SPFC7 zero-G flights.

Name of organisation

ESA Education department, European Space Agency/ESTEC, <http://www.esa.int/education>.

Personal skills and competences

Mother tongue(s)

Danish

Other language(s)

English and German

*Self-assessment
European level^(*)*

English

German

Understanding		Speaking		Writing	
Listening	Reading	Spoken interaction	Spoken production		
C2 Proficient user	C2 Proficient user	C2 Proficient user	C2 Proficient user	C2 Proficient user	C2 Proficient user
B1 Independent user	B2 Independent user	B1 Independent user	B1 Independent user	B1 Independent user	B1 Independent user

^(*) Common European Framework of Reference (CEF) level

Social skills and competences

Open minded and engaging
– Enjoys working in a multicultural environment (From experience at LAC, ESA/ESTEC and AAU).
– Thrives in team work situations (Through project based studies at AAU).
– Seeks leadership when the need arises.

Organisational skills and competences

Technical skills and competences

Computer skills and competences

Additional information

Structured and goal oriented as learned through the project oriented teaching at AAU.

- Experience in project and team management (From involvement in student space activities in particular AAUSAT-II).
- Leadership experience (Project supervision for bachelor students, natural leader in student projects.).

Theoretically strong with practical experience from many projects

- Wind turbine control; particularly load reducing control and condition monitoring.
- Control theory (hybrid systems in particular) and engineering.
- Modelling and simulation of physical processes.
- Embedded systems software and hardware design and implementation.
- Software systems design and implementation.

Very proficient developer and user

- Expert Matlab and Simulink user including code generation with Real-Time Workshop
- Intimate knowledge of flex 5 code base through LACflex aeroelastic code development
- Good knowledge of structured and object oriented programming, e.g. Matlab, Java, C, C++, Delphi.
- Easily learns new programming techniques and languages .
- Experience with a wide range of operating systems, office productivity applications and Internet applications.

Select Publications

Nevena Perišić, Bo Juul Pedersen, Jacob Deleuran Grunnet, Jesper Runge Kristoffersen, and Poul Henning Kirkegaard.

Model-based load estimation for predictive condition monitoring of wind turbines. In *Proc. of EWEA*, 2011

Jacob Deleuran Grunnet, S. M. Soltani, T. Knudsen, M. Kragelund, and T. Bak. Aeolus toolbox for dynamic wind farm model, simulation and control. In *Proceedings of the European Wind Energy Conference*, 2010

Jacob D. Grunnet, Jan D. Bendtsen, and Thomas Bak. Automated fault tolerant control synthesis based on discrete games. In *Proc. of the Conference on Decision and Control*, 2009

Jacob Deleuran Grunnet, Thomas Bak, and Jan Dimon Bendtsen. PAHSCTRL - a control synthesis toolbox for piecewise-affine hybrid systems. In *Proc. of European Control Conference*, 2009

Personal interests

Rollerskating, Martial Arts (Aikido), Computer Games, Gastronomy.

References

Name

Thomas Bak

Relation

Section Head - Automation and Control, PhD. thesis supervisor.

Contact

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Name

Finn Ankersen

Relation

Supervisor at ESA/ESTEC.

Contact

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Name

Jens Dalsgaard Nielsen

Relation

Supervisor AAU student space projects.

Contact

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