Personal information

Surname(s) / First name(s)	**Grunnet, Jacob Deleuran**
Address(es)	Augustenborggade 15, 3. th. DK-8000 Aarhus (Denmark)
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Nationality(-ies)	Danish
Date of birth	May 25, 1981
Gender	Male

Occupational field

Mathematical modelling, control engineering and research

Summary

I'm a control specialist with flair for mathematical modelling who enjoys the challenges of analysing, designing and implementing algorithms and control systems.

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 specialist and team lead for the sensing team at Vestas Turbine R&D gives me the opportunity to develop high performance solutions for the worlds leading wind turbine manufacturer.

Work experience

Dates	Nov 2015 - present
Occupation or position held	**Specialist, Control and Sensing**
Main activities	Tech lead, technology management, daily team management of sensor systems development team
Name and address of employer	Vestas Wind Systems, http://www.vestas.com.
Dates	Jan 2012 - Nov 2015
Occupation or position held	**Control Lead Engineer**
Main activities	Control algorithm development for concept studies, model based control analysis, robustness and performance analysis, development of control solution for wind turbines and field verification of turbine performance
Name and address of employer	Vestas Wind Systems, http://www.vestas.com.
Dates	May 2010 - Dec 2012
Occupation or position held	**Specialist Engineer, Control**
Main activities	Development of advanced control algorithms, aeroelastic codes and health monitoring algorithms.
Name and address of employer	LAC engineering, http://www.LACengineering.com.
Dates	July 2009 - May 2010
Occupation or position held	**Post Doc**
Main activities	Completion of wind farm simulation benchmark for Aeolus, http://ict-aeolus.eu.
Name and address of employer	Section for Automation and Control, Department of Electronic Systems, Aalborg University, http://www.control.aau.dk.
Dates	December 2008 - June 2009
Occupation or position held	**Research Assistant**
Main activities	Development of a Matlab control synthesis toolbox for hybrid games as part of MultiForm. See http://www.control.aau.dk/~grunnet/pahsctrl and http://ict-multiform.eu.
Name and address of employer	Department of Computer Science, Aalborg University, http://www.cs.aau.dk.

Dates	September 2008 - December 2008
Occupation or position held	**Stagair (trainee)**
Main activities	Development of fault tolerant satellite formation control algorithms as part of Ph.D. project.
Name and address of employer	TEC-ECN (Section for Guidance and Navigation), European Space Agency/ESTEC, Noordwijk, The Netherlands.
Dates	2006 - 2008
Occupation or position held	**Lecturer**
Main activities	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: 2003 - 2009

Occupation or position held: **Systems Engineer on AAUSAT-II (Satellite)**

Main activities: 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: September - December 2004

Occupation or position held: **Software Engineer Baumanetz and SSETI-Express (Satellites)**

Main activities: Low level communication software development for the on board computer used on the Russian student satellite Baumanetz and the European Space Agency financed SSETI-Express.

Name of organisation: Student Space Group, Aalborg University, http://space.aau.dk.

Dates: Jan 2004 - July 2004

Occupation or position held: **Experiment designer for ESA's student parabolic flight campaign 7**

Main activities: 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*(*)	Understanding		Speaking		Writing
	Listening	Reading	Spoken interaction	Spoken production	
English	C2 Proficient user	C2 Proficient user	C2 Proficient user	C2 Proficient user	C2 Proficient user
German	B1 Independent user	B2 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.
- Thrives in team work situations.
- Seeks leadership role when the need arises.

Organisational skills and competences

Structured and goal oriented

- Experience in project and team management.
- Leadership experience.

Technical skills and competences

Theoretically strong with practical experience from many projects

- Wind turbine control. In particular load reducing control and stability analysis.
- Development of aeroelastic simulation tools
- Control theory and engineering.
- Modelling and simulation of physical processes.
- Embedded systems software and hardware design and implementation.
- Software systems design and implementation.

Computer skills and competences

Very proficient developer and user

- Expert Matlab and Simulink user including Simulink Coder
- Experience with both structured and object oriented programming, e.g. Java, C, C++, C#, Delphi.
- Easily learns new programming techniques and languages .

Additional information

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 toolboox for piecewise-affine hybrid systems.
In *Proc. of European Control Conference*, 2009

Personal interests

Glider Plane Soaring, Computer Games, Gastronomy

References

Name	**Thomas Bak**
Relation	Section Head - Automation and Control, PhD. thesis supervisor.
Contact	tba@es.aau.dk
Name	**Jens Dalsgaard Nielsen**
Relation	Supervisor AAU student space projects.
Contact	jdn@es.aau.dk