Dennis Madsen

contact

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http://dennismadsen.me/

languages

Danish - Native
English - Proficient
German - B1/B2

programming

♥ Scala, Python
C, C++, SQL, VHDL
Matlab, Java
LaTeX
CSS, JavaScript & (x)HTML
Django, Web2py, Flask Python
Web Frameworks

education

2017–2021	**PhD Computer Science**	Basel University, Switzerland

Thesis: A Probabilistic Surface Registration Framework with Applications to Partial Data Analysis - Model-based medical image analysis with focus area on registration and modelling using partial data as well as uncertainty in surface reconstruction.

2015–2017	**MSc Computer Science**	Basel University, Switzerland

Thesis: Craniofacial modelling by combining statistical models of the face and the skull - Combining independent statistical shape models. *The highest grade was achieved for my thesis.*

2010–2014	**BSc Electronic Design Engineering**	Aarhus University, Denmark

Thesis: Power quality analysis of wind turbines - Harmonic frequency analysis prototype implementation in a Texas Instrument DSP. *The highest grade was achieved for my thesis.*

2009–2010	**Pre-admission course**	Aarhus University, Denmark
2005–2009	**Electronic Industrial Technician** (elektronikfagtekniker)	Mercantec Viborg, Denmark

experience

2017–2021	**University of Basel**	Basel, Switzerland

Research Assistant / PhD Candidate - Lecturing the course *Pattern recognition* and main responsible for the exercises.

2016–2019	**Capana**	Remote from Switzerland

Consultant - Development projects and tool testing for Siemens Wind Power.

2014–2015	**Siemens Wind Power**	Brande, Denmark

Embedded Software Support Engineer - Work task automation of manual procedures; software updates and support of Siemens Wind Turbine Controllers.

2009–2014	**Microdevelopment**	Herning, Denmark

Owner - Developing an electronic speed tables for use in historical reliability races. Responsible for software development, web design and customer contact.

2013–2013	**Litepoint**	Sunnyvale, California, USA

Electronic Engineer Intern - Test system interface using a local web server.

2006–2014	**KK-Electronic**	Ikast, Denmark

Embedded Software Engineer Student / Electronic Industrial Technician Trainee
HW design, embedded SW (c), documentation, prototyping (mechanic, PCB, test scripting), HW coding (VHDL).

publications

International peer-reviewed conferences/proceedings

A closest point proposal for MCMC-based probabilistic surface registration
Dennis Madsen, Andreas Morel-Forster, Patrick Kahr, Dana Rahbani, Thomas Vetter, Marcel Lüthi
European Conference on Computer Vision (ECCV), 2020

Learning Shape Priors from Pieces
Dennis Madsen, Jonathan Aellen, Andreas Morel-Forster, Thomas Vetter, Marcel Lüthi
International Workshop on Shape in Medical Imaging (ShapeMi), 2020

Probabilistic joint face-skull modelling for facial reconstruction
Dennis Madsen, Marcel Lüthi, Andreas Schneider, Thomas Vetter
Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2018

International peer-reviewed workshops/proceedings

Dennis Madsen, Thomas Vetter, Marcel Lüthi. "Probabilistic surface reconstruction with unknown correspondence". In: *Uncertainty for Safe Utilization of Machine Learning in Medical Imaging and Clinical Image-Based Procedures (UNSURE)*. Springer, Cham, 2019, pp. 3–11.

Dana Rahbani, Andreas Morel-Forster, Dennis Madsen, Marcel Lüthi, Thomas Vetter. "Robust registration of statistical shape models for unsupervised pathology annotation". In: *Large-Scale Annotation of Biomedical Data and Expert Label Synthesis and Hardware Aware Learning for Medical Imaging and Computer Assisted Intervention (LABELS)*. Springer, Cham, 2019, pp. 13–21.

awards

2018	**Best Presentation Award**	Favignana, Sicily, Italy

Recognition of the best poster presentation given at the Medical Imaging Summer School (MISS)
`http://iplab.dmi.unict.it/miss/posters.htm`

2018	**2nd Best Presentation Award**	ETH Zürich, Switzerland

Recognition of the second best presentation given at the EXCITE Summer School on Biomedical Imaging
`http://www.excite.ethz.ch/education/summer-school.html`

hackathons

2017	**Price Winner**	CopenHacks, Copenhagen Hackathon

Project: Social-Eyes - Enabling visually impaired persons to easily share images on social media.
`https://www.youtube.com/watch?v=1l4iiC9J9to`

2016	**Winner of - main sponsor (Logitech) challenge**	LauzHack, Lausanne Hackathon

Project: GamEmotion - analysis of gamers emotions while playing, and a website to evaluate the data stream.
`https://www.youtube.com/watch?v=3CO_xql0jyo`

2016,17,18	**HackZürich Participant**	Europe's largest hackathon