Oula Puonti

CONTACT INFORMATION

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SCIENTIFIC INTERESTS

Segmentation of MR images, Bayesian modeling, quantitative MR, probabilistic modeling

EDUCATION

Technical University of Denmark, Kgs. Lyngby, Denmark

PhD, Informatics, (November 2012 – February 2016)

- The PhD project focused on developing contrast adaptive whole-brain segmentation and pathology detection methods for clinical purposes.

University of Helsinki, Helsinki, Finland

Master of Science, Theoretical Physics

Graduation Date: October, 2012, 4.8/5.0 GPA

University of Helsinki, Helsinki, Finland

Bachelor of Science, Theoretical Physics

Graduation Date: June, 2011, 5.0/5.0 GPA

HONORS AND AWARDS

Full Scholarship for PhD studies,
Technical University of Denmark, 2012 – 2015

ACADEMIC EXPERIENCE

Technical University of Denmark, Kgs. Lyngby, Denmark
PhD student **November, 2012 – present**
Includes current Ph.D. research, Ph.D. and Master level coursework and tutoring of students.

Aalto University Department of Information and Computer Science, Espoo, Finland
Visiting researcher **June – August, 2013**
Visited Aalto university as a part of an external stay related to PhD studies.

Athinoula A. Martinos Center for Biomedical Imaging, Boston, USA
Visiting researcher **June – August, 2012**
Visited the Martinos Center as an undergraduate researcher while working for a research project at Aalto University.

Aalto University Department of Information and Computer Science, Espoo, Finland
Research assistant **May, 2010 – October, 2012**
Research assistant in a project developing automated segmentation methods of magnetic resonance brain images using parametric Bayesian models.

Aalto University, Low Temperature Laboratory, Brain Research Unit, Espoo, Finland
Research assistant **May, 2009 – October, 2009**

Worked in a research project developing a Bayesian method for localization of oscillatory brain activity using magnetoencephalography (MEG).

Publications

Puonti, Iglesias and Van Leemput: "Fast, Sequence Adaptive Parcellation of Brain MR Using Parametric Models", In *Medical Image Computing and Computer Assisted Intervention – MICCAI – 16th International Conference, Nagoya, Japan, September 22-26, 2013, Proceedings, Part I. Springer, pages 727 – 734, Lecture Notes in Computer Science, Vol. 8149.*

Puonti and Van Leemput: "Simultaneous Whole-Brain Segmentation and White Matter Lesion Detection Using Contrast-Adaptive Probabilistic Models", In *Brainlesion: Glioma, Multiple Sclerosis, Stroke and Traumatic Brain Injuries: First International Workshop, Brainles 2015, Held in Conjunction with MICCAI 2015, Munich, Germany, October 5, 2015, Revised Selected Papers, Springer International Publishing, pages 9 – 20, Lecture Notes in Computer Science, Vol. 9556.*

Agn, Puonti, Munck af Rosenschöld, Law and Van Leemput: "Brain Tumor Segmentation Using a Generative Model with an RBM Prior on Tumor Shape", In *Brainlesion: Glioma, Multiple Sclerosis, Stroke and Traumatic Brain Injuries: First International Workshop, Brainles 2015, Held in Conjunction with MICCAI 2015, Munich, Germany, October 5, 2015, Revised Selected Papers, Springer International Publishing, pages 168 – 180, Lecture Notes in Computer Science, Vol. 9556.*

Lyksborg, Puonti, Agn and Larsen: "An ensemble of 2D convolutional neural networks for tumor segmentation", In: Proceedings of the 19th Scandinavian Conference on Image Analysis, SCIA 2015 (ISBN: 978-3-319-19664-0), pages: 201-211, 2015, Springer, Lecture Notes in Computer Science, Vol. 9127.

Van Leemput and Puonti: "Tissue classification", In: Toga, Brain Mapping: An Encyclopedic Reference, Elsevier, 2015

Presentations and Posters

"Simultaneous Whole-Brain Segmentation and White Matter Lesion Detection Using Contrast-Adaptive Probabilistic Models", Oral presentation at MICCAI BrainLes workshop 2015, Munich, Germany

"Automated Segmentation of Magnetic Resonance Brain Images Using Bayesian Modeling", Invited oral presentation at Visionday 2014, DTU, Denmark

"Fast, Sequence Adaptive Parcellation of Brain MR Using Parametric Models", Poster presentation at MICCAI 2013, Nagoya, Japan

Service to Profession

Reviewer for Medical Image Analysis Journal, Impact factor 3.7
Reviewer for NeuroImage Journal, Impact factor 6.357