

Jennifer Alvé



contact

Frukträdsgatan 9
41719 Göteborg, Sverige
+46(0)708869517
jennifer.alven@gmail.com

languages

Swedish, mother tongue
English, fluency
French, basic skills
German, basic skills

programming

MATLAB, Python
TensorFlow, PyTorch
Keras, Theano, Torch
C++, C, Java, LaTeX

referees

Prof. Fredrik Kahl
Dept. of Electrical Eng.
Chalmers Univ. of Tech.
fredrik.kahl@chalmers.se
+46(0)317725057

Dr. Olof Enqvist
Eigenvision AB
olof@eigenvision.se

professional summary

Research interests: Medical image segmentation, deep machine learning, shape modelling.

Skills: Problem solving, project management, written and oral communication.

Qualities: Analytical, well-organized, pedagogical, outgoing.

education

- 2015–2020 **PhD** in Signals and Systems **Chalmers Univ. of Tech.**
Thesis: Combining Shape and Learning for Medical Image Analysis
- 2008–2015 **MSc** in Engineering, Engineering Mathematics **Lund University**

teaching & supervision

- 2015–2020 **Department of Electrical Engineering** **Chalmers Univ. of Tech.**
Teaching assistant
Exercise/lab/project instructor, guest lecturer, course development in:
- Diagnostic imaging
 - Image analysis
 - Applied signal processing
 - Circuit analysis
- Master thesis supervision*
Academic supervisor of eight master thesis projects, including:
- Björnsson & Liu, 2020: Automatic assessment of cardiac ultrasound images using deep learning.
 - Ring, 2018: Deep learning for coronary artery segmentation in CTA images.
 - Alcevska, 2016: Segmentation of the left ventricle of the heart in 2D ultrasound images using convolutional neural networks.
 - Shao, 2016: Pericardium segmentation in non-contrast cardiac CT images using convolutional neural networks.
- 2009–2013 **Centre for Mathematical Sciences** **Lund University**
Teaching assistant
Exercise/lab/project instructor in:
- Markov processes
 - Mathematical statistics
 - Analysis in several variables
 - Analysis in one variable

experience & qualifications

- 2018–2019 **Conference chair for Swedish Symposium on Image Analysis** **Chalmers Univ. of Tech.**
Including conference budget management, communication and administration.
- 2017–2019 **Project leader of WiSE - Women In ScienceE** **Chalmers Univ. of Tech.**
Including project budget management, consulting to the management group of the Department of Electrical Engineering, communication and administration.
- 2017–2019 **Board member of Electrical Engineering program council** **Chalmers Univ. of Tech.**
- 2016–2020 **Board member of WiSE - Women In ScienceE** **Chalmers Univ. of Tech.**

scholarships & awards

2017	Travel scholarship	Chalmersska forskningsfonden
2016	IBM best student paper	ICPR (Int. Conf. on Pattern Recognition)
2015	Best student paper	SCIA (Scand. Conf. on Image Analysis)

publications

Alvén, Heurling, Smith, Strandberg, Schöll, Hansson and Kahl. "A Deep Learning Approach to MR-less Spatial Normalization for Tau PET Images". *International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, 355-363, 2019.

Alvén, Kahl, Landgren, Larsson, Ulén and Enqvist. "Shape-Aware Label Fusion for Multi-Atlas Frameworks". *Pattern Recognition Letters*, 124:109-117, 2019.

Fejne, Landgren, Alvén, Ulén, Fredriksson, Larsson and Kahl. "Multi-atlas Segmentation Using Robust Feature-Based Registration". In *Cloud-Based Benchmarking of Medical Image Analysis*, Springer International Publishing, 203–218, 2017.

Larsson, Alvén, and Kahl. "Max-margin learning of deep structured models for semantic segmentation". *Scandinavian Conference on Image Analysis (SCIA)*, 28–40, 2017.

Norlén, Alvén, Molnar, Enqvist, Rossi Norrlund, Brandberg, Bergström and Kahl. "Automatic Pericardium Segmentation and Quantification of Epicardial Fat from Computed Tomography Angiography". *Journal of Medical Imaging*, 3(3), 2016.

Alvén, Norlén, Enqvist and Kahl. "Überatlas: Fast and Robust Registration for Multi-atlas Segmentation". *Pattern Recognition Letters*, 80:245–255, 2016.

Alvén, Kahl, Landgren, Larsson and Ulén. "Shape-Aware Multi-Atlas Segmentation". *International Conference on Pattern Recognition (ICPR)*, 1101–1106, 2016.

Alvén, Norlén, Enqvist and Kahl. "Überatlas: Robust Speed-Up of Feature-Based Registration and Multi-Atlas Segmentation". *Scandinavian Conference on Image Analysis (SCIA)*, 92–102, 2015.

Kahl, Alvén, Enqvist, Fejne, Ulén, Fredriksson, Landgren and Larsson. "Good Features for Reliable Registration in Multi-Atlas Segmentation". *VISCERAL Challenge at the International Symposium on Biomedical Imaging (ISBI)*, 12–17, 2015.