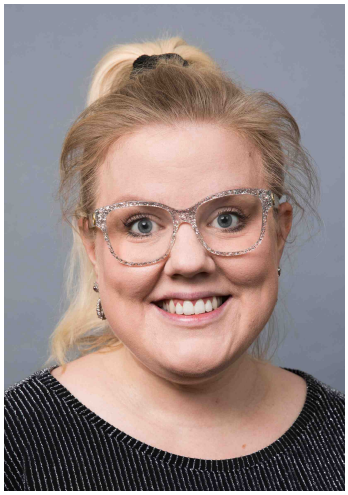
Jennifer Alvén | PhD



contact

Fruktträdsgatan 9
41749 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
C++, C, Java
LaTeX

referees

Prof. Göran Berström
Sahlgrenska Academy
Gothenburg Univ.
goran.bergstrom@hjl.gu.se
+46(0)705094405

Assoc. Prof. Sabine Reinfeldt
Dept. of Electrical Eng.
Chalmers Univ. of Tech.
sabine.reinfeldt@chalmers.se
+46(0)317728063

professional summary

Interests: Medical image analysis, deep machine learning, popular science, teaching.
Skills: Problem solving, project management, written and oral communication, supervision.
Qualities: Analytical, well-organized, pedagogical, passionate, outgoing, loyal.

current position

2020–pres. **Postdoctoral researcher at Sahlgrenska Academy** — **Univ. of Gothenburg**
Lead technical researcher in two deep learning projects with cardiovascular imaging applications: "Deep models for coronary artery segmentation and detection of stenoses" and "Generalizable deep models for echocardiography assessment". Project leader and site PI for the Vinnova project "SCAPIS AI-plattform". Parental leave on full-time/part-time until September 2021.

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**

grants, scholarships & awards

2020-2022 **SCAPIS AI-plattform (4.2 MSEK)** — **Vinnova**
Project leader, site PI and co-applicant.

2021 **Best Swedish thesis 2019-2020** — **Swedish Society for Automated Image Analysis**

2017 **Travel scholarship** — **Chalmersska forskningsfonden**

2016 **IBM best student paper** — **International Conference on Pattern Recognition**

2015 **Best student paper** — **Scandinavian Conference on Image Analysis**

experience & qualifications

2018–2019 **Conference chair for Swedish Symposium on Image Analysis** — **Chalmers Univ. of Tech.**
Including budget management, communication and administration.

2017–2019 **Project leader of WISE equality network** — **Chalmers Univ. of Tech.**
Including budget management, communication and administration as well as equality advisory for the department management group.

2017–2019 **Board member of Electrical Engineering program council** — **Chalmers Univ. of Tech.**

2016–2021 **Board member of WISE equality network** — **Chalmers Univ. of Tech.**

teaching & supervision

2015–2021 **Department of Electrical Engineering** **Chalmers Univ. of Tech.**

Responsible teacher
Coordination, course development, written examination, administration in "Diagnostic imaging".

Lecturer
Lecturing in "Diagnostic imaging", "Image analysis".

Teaching assistant
Exercise/lab/project instruction and examination in "Diagnostic imaging", "Image analysis", "Applied signal processing", "Circuit analysis".

Master thesis supervision
Academic supervisor of eight master thesis projects with focus on deep learning and medical image analysis at Sahlgrenska Academy & University Hospital, Smart Eye, Fingerprints, Alten and QRTECH.

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".

publications

Alvén, Hagberg, Hagerman Olzon, Petersen and Hjelmgren. "Prediction of Left Ventricular Ejection Fraction in 2D Echocardiography with Multi-stream Convolutional Neural Networks and Transformers". Submitted to *International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI).*

Hagberg, Hagerman Olzon, Johansson, Hosseini, Liu, Björnsson, Alvén and Hjelmgren. "Semi-supervised learning with natural language processing for right ventricle classification in echocardiography – a scalable approach". To appear in *Computers in Biology and Medicine.*

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.