

Felix Järemo Lawin

Curriculum Vitae

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I am an engineer and researcher with a Ph.D. in computer vision, obtained at Linköping University, Sweden. My research focuses on machine learning for different computer vision applications, including 3D point set registration, segmentation, video object segmentation, and tracking. I am also generally interested in machine learning and deep learning methods and how these can be used in different areas.

Education

2016–2021 **PhD Student**, *Linköping University*.

My research focuses on machine learning for computer vision. Here is a selection of topics that I have worked with:

- Time-of-flight ranging algorithms for RGB-D cameras
- 3D reconstruction
- Point set registration
- Learning representations for registration
- Object detection
- Semantic segmentation
- Video object segmentation and tracking

In addition I have 90 ECTS credits of graduate courses in mathematics, machine learning and pedagogy.

2009–2015 **Master of Science in Applied Physics and Electrical Engineering**, *Linköping University*.

- First three years focused on mathematics, physics and electrical engineering
- I had one year off traveling and working as a programmer
- In the final two years I specialized in computer vision

Experience

2016–Present **PhD Student**, *Linköping University*.

My main work tasks are research, teaching and master student supervision.

2015–2016 **Research assistant**, *Linköping University*.

Worked with a teaching, time-of-flight ranging project, robotics in the EU project H2020 CENTAURO.

2012–2013, **Programmer**, *Tetra Pak*, Lund.

june-aug 2014 My main tasks involved data base management and front-end development of administrative tools.

Programming Skills

Languages

Advanced Python, MATLAB

Experienced C/C++
Intermediate SQL, VBA, Java, R
[Machine Learning packages](#)
Advanced Pytorch
Intermediate TensorFlow

Languages

Swedish Mother tongue
English Fluent

Teaching experience

During my PhD studies at Linköping University I have supervised master theses and worked as a teacher in the courses below.

- TSDT18 **Signals and Systems**, *lessons, labs and exams.*
- TSBB15 **Computer Vision**, *student project supervision.*
- TSBB11 **CDIO Project Computer Vision**, *student project supervision.*
- TFYY51 **Ingenjörprojekt Y**, *student project supervision.*
- TSKS21 **Signals, Information and Images**, *lessons, labs and exams.*
- TSBB17 **Visual Object Recognition and Detection**, *student project supervision.*

Publications

- PhD Thesis **Learning Representations for Segmentation and Registration**, *Felix Järemo Lawin*, 2021.
[Project page](#)
- 3DV 2020 **Registration Loss Learning for Deep Probabilistic Point Set Registration**, *Felix Järemo Lawin, Per-Erik Forssén*, International Conference on 3D Vision, 2020.
[Project page](#)
- ECCV 2020 **Learning what to learn for video object segmentation**, *Goutam Bhat, Felix Järemo Lawin, Martin Danelljan, Andreas Robinson, Michael Felsberg, Luc Van Gool, Radu Timofte*, European Conference on Computer Vision 2020, [Project page](#).
- CVPR 2020 **Learning Fast and Robust Target Models for Video Object Segmentation**, *Andreas Robinson, Felix Järemo Lawin, Martin Danelljan, Fahad Shahbaz Khan, Michael Felsberg*, Conference on Computer Vision and Pattern Recognition 2020, [Project page](#).
- RAL 2020 **Assessing Losses for Point Set Registration**, *Anderson C. M. Tavares, Felix Järemo Lawin, Per-Erik Forssén*, IEEE Robotics and Automation Letters 2020, [Project page](#).
- CVPR-WS 2019 **Discriminative learning and target attention for the 2019 davis challenge on video object segmentation**, *Andreas Robinson, Felix Järemo Lawin, Martin Danelljan, Michael Felsberg*, The 2019 DAVIS Challenge on Video Object Segmentation-CVPR Workshops 2019.

- CVPR 2018 **Density Adaptive Point Set Registration**, *Felix Järemo Lawin, Martin Danelljan, Fahad Shahbaz Khan, Per-Erik Forssén, Michael Felsberg* , Conference on Computer Vision and Pattern Recognition 2018, [Project page](#).
- CAIP 2017 **Deep projective 3D semantic segmentation**, *Felix Järemo Lawin, Martin Danelljan, Patrik Tosteberg, Goutam Bhat, Fahad Shahbaz Khan, Michael Felsberg* , International Conference on Computer Analysis of Images and Patterns 2017.
- ECCV 2016 **Efficient multi-frequency phase unwrapping using kernel density estimation**, *Felix Järemo Lawin, Per-Erik Forssén, Hannes Ovrén* , European Conference on Computer Vision 2016, [Project page](#).