CV

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1 Education

1.1 Degrees

2018 – now **PhD in Statistics**, *Department of Statistics, Lund University*
I am currently enrolled in the PhD program at the Department of Statistics at Lund University. My supervisor is Jonas Wallin, associate senior lecturer at the department.

2018 **Bachelor's Degree in Statistics**, *Lund University*
I developed an algorithm for creating area-proportional Euler diagrams using ellipses. This work also resulted in a conference paper and oral presentation at the SetWR conference in Edinburgh.

2015 – 2017 **Master's Degree in Medical Science**, *Lund University*
In my masters thesis I designed and piloted a randomized controlled trial.

2011 – 2014 **Bachelor's Degree in Physical Therapy**, *Lund University*
For my bachelor thesis, me and my co-author traveled to Tokyo to interview physical therapists about their professional role and use of technology.

1.2 Courses

2020 **Convex Optimization I**, *7.5 ECTS, Lund University*
Course Design in Higher Education, *4 ECTS, Lund University*
Advanced Bayesian Learning, *7. ECTS, Stockholm University*

2019 **Sequential Monte Carlo Methods**, *6 ECTS, Uppsala University*
Teaching in Higher Education, *4 ECTS, Lund University*
Mathematical Statistics: Probability Theory, *7.5 ECTS, Lund University*
Statistical Inference, *15 ECTS, Swedish Network for Graduate and Postgraduate Education in Statistics, Sweden*

Statistics: Multivariate Analysis, *7.5 ECTS, Lund University*

2018 **Data Mining and Visualization**, *7.5 ECTS, Lund University*
Linux Development Environment, *7.5 ECTS, Umeå University*
Statistical Methods with R, *7.5 ECTS, Karolinska Institute*

2017 **Statistics: Bayesian Methods**, *7.5 ECTS, Lund University*
Statistics: Probability and Inference Theory, *7.5 ECTS, Lund University*
Statistics: Special Assignment, *15 ECTS, Lund University*
Statistics: Econometrics, *7.5 ECTS, Lund University*
Statistics: Time Series Analysis, *7.5 ECTS, Lund University*
Statistics: Statistical Theory, *7.5 ECTS, Lund University*
Statistics: Sampling Techniques, *7.5 ECTS, Lund University*

2016 **Statistics: Basic Course**, *30 ECTS, Lund University*

2014 – 2015 **Summer Research School**, *18 ECTS, Faculty of Medicine, Lund University*
I worked as a research assistant at a specialized clinic for pain rehabilitation and presented a poster at EFIC in 2015 and IASP in 2016.

2013 – 2014 **Summer Research Scholarship**, *15 ECTS, Faculty of Medicine, Lund University*
As a part of a stipend, I undertook a course in basic academic knowledge.

1.3 Miscellaneous

2017 **Network Analysis**, *SBU, Stockholm, Sweden*

2016 **Conducting Systematic Reviews**, *HTA-0, Malmö, Sweden*

2 Professional Experience

2018 – now **PhD in Statistics**, *Department of Statistics, Lund University*

2018 **Google Summer of Code**, *The R Project for Statistical Computing*
A project supervised by Toby Dylan Hocking and Michael Weylandt wherein which I translated the incremental stochastic gradient algorithm SAGA to R and implemented it to work for generalized linear models, such as Gaussian (univariate and multi-task), logistic (binomial and multinomial), and Poisson.

2017 – 2018 **Physical Therapist**, *The Department of Orofacial Pain and Jaw Function, Malmö University*

2014 – 2018 **Physical Therapist**, *Vårdcentralen Södra Sandby, Region Skåne*

3 Research

2018 – now **PhD in Statistics**, *Department of Statistics, Lund University*

2015 – 2018 **Research Assistant**, *SMIL*
SensoriMotor Integration Lund (SMIL) was a collaborative effort between Lund University, Skåne University Hospital, Malmö University, and Umeå University, in which we assessed the utility of a gym-based treatment for patients with persistent neck pain.

2015 **Research Assistant**, *The Department of Pain Rehabilitation, Skåne University Hospital*
Together with supervisors Eva-Maj Malmström and Hans Westergren I studied patients with longstanding whiplash-associated disorders, which resulted in one publication and two poster presentations.

2014 **Research Assistant**, *Department of Clinical Sciences, Lund University*
As part of a research stipend from the Faculty of Medicine at Lund University, I – under supervision of Eva-Ekvall Hansson and Michael Miller – studied the gait of dizzy, elderly patients. This work resulted in two publications.

4 Publications

4.1 Articles

[1] **J. Larsson**, H. Westergren, B. Häggman-Henrikson, A. Ilgunas, A. Wänman, and E.-M. Malmström, "The feasibility of gym-based exercise therapy for patients with persistent neck pain," *Scandinavian Journal of Pain*, vol. 20, no. 2, pp. 261–272, Apr. 2020, ISSN: 1877-8879. DOI: 10.1515/sjpain-2019-0085.

[2] S. Åkerblom, **J. Larsson**, E.-M. Malmström, E. Persson, and H. Westergren, "Acceptance: A factor to consider in persistent pain after neck trauma," *Scandinavian Journal of Pain*, vol. 19, no. 4, pp. 733–741, 2019, ISSN: 1877-8879. DOI: 10.1515/sjpain-2019-0021.

[3] **J. Larsson**, "Mapping physical therapy research: The geographical affiliations and methodological quality of 2,959 randomized controlled trials," *Physiotherapy Theory and Practice*, vol. 34, no. 9, pp. 723–729, Jan. 2018, ISSN: 1532-5040. DOI: 10.1080/09593985.2018.1423657.

[4] H. Westergren, **J. Larsson**, M. Freeman, A. Carlsson, A. Jöud, and E.-M. Malmström, "Sex-based differences in pain distribution in a cohort of patients with persistent post-traumatic neck pain," en, *Disability and Rehabilitation*, vol. 40, no. 9, pp. 1085–1091, Jan. 2017. DOI: 10.1080/09638288.2017.1280543.

[5] **J. Larsson**, M. Miller, and E. Ekvall Hansson, "Vestibular asymmetry increases double support time variability in a counter-balanced study on elderly fallers," *Gait & Posture*, vol. 45, pp. 31–34, Mar. 2016, ISSN: 0966-6362. DOI: 10.1016/j.gaitpost.2015.12.023.

[6] **J. Larsson**, E. Ekvall Hansson, and M. Miller, "Increased double support variability in elderly female fallers with vestibular asymmetry," eng, *Gait & Posture*, vol. 41, no. 3, pp. 820–824, Mar. 2015, ISSN: 1879-2219. DOI: 10.1016/j.gaitpost.2015.02.019.

4.2 Theses

[1] **J. Larsson**, "Eulerr: Area-proportional euler diagrams with ellipses," Bachelor Thesis, Lund University, Lund, Sweden, 2018.

[2] ——, "Gym-based exercise therapy for patients with persistent neck pain: A research protocol for a randomized controlled trial," Master's Thesis, Lund university, Lund, Sweden, Jan. 2017.

[3] D. Najafi and **J. Larsson**, "The professional role and technology use among physical therapists in Tokyo: A qualitative interview study," Bachelor Thesis, Lund University, Lund, Sweden, 2014.

4.3 Conference Papers

[1] **J. Larsson** and P. Gustafsson, "A case study in fitting area-proportional Euler diagrams with ellipses using eulerr," in *Proceedings of International Workshop on Set Visualization and Reasoning*, vol. 2116, Edinburgh, United Kingdom: CEUR Workshop Proceedings, Jun. 2018, pp. 84–91.

4.4 Conference Abstracts

[1] **J. Larsson**, H. Westergren, and E.-M. Malmström, "Pain distribution after neck traumas: An analysis of 745 consecutive patients with persistent neck pain," in *IASP 2016: The World Congress on Pain*, IASP, Ed., Yokohama, Japan, Sep. 2016.

[2] H. Westergren, **J. Larsson**, and E.-M. Malmström, "Pain distribution in 745 consecutive patients with persistent pain after whiplash trauma," in *EFIC 2015: Translating Evidence into Practice*, EFIC, Ed., Vienna, Austria, Sep. 2015.

5 Teaching

2020 **Data Visualization**, *Department of Statistics, Lund University*
A course at undergraduate level that I designed and constructed and served as primary instructor for.

2019–2020 **Data Mining and Visualization**, *Department of Statistics, Lund University*
A graduate level course in statistical learning that I served as a teaching assistant for. I redesigned the lab activities.

2019–2020 **Statistics: Basic Course**, *Department of Statistics, Lund University*
An undergraduate level course in basic statistics that I served as a teaching assistant and lecturer for.

2019 **Artificial Intelligence and Deep Learning Methods**, *Department of Statistics, Lund University*
A graduate level course in deep learning that I served as a teaching assistant for.

2016 – 2018 **Teaching Assistant**, *Department of Physiotherapy, Lund University*
I served as a teaching assistant for students at the program of medicine.

6 Supervision and Mentorship

2020 **Google Summer of School Mentor**
I mentored Akarsh Goyal for the project *Better Solvers for the SLOPE package* (https://summerofcode.withgoogle.com/dashboard/project/5459519376719872/overview/).

2019 **Google Summer of School Mentor**
I mentored Qincheng Liu for the project *sgdnet: efficient regularized GLMs for big data* (https://summerofcode.withgoogle.com/archive/2019/projects/4654960430546944/).

2017 – 2019 **Assistant Supervisor, Bachelor's Thesis**, *The Department of Orofacial Pain and Jaw Function, Malmö University*
Supervision of two students at undergraduate level for a project regarding exercise for neck and jaw pain.

2017 – 2018 **Assistant Supervisor, Master's Thesis**, *The Department of Orofacial Pain and Jaw Function, Malmö University*
Supervision of two students at master's level for a project about biofeedback and posture.

7 Reviewing Duties

- Gait & Posture (ISSN: 0966-6362)
- Journal of Clinical Interventions in Aging (ISSN: 1178-1998)
- Spine (ISSN: 0362-2436)
- Archives of Physical Medicine and Rehabilitation (ISSN: 0003-9993)

See publons.com/a/1299032 for additional information.

8 Talks

2020, May 8 **Statistical Learning Seminar**
Presentation of my paper of the strong screening rule for SLOPE on the statistical learning seminar series.

2018, June 18 **SetVR 2018**
Presentation on the eulerr package for visualizing set data.

9 Software

SLOPE Generalized Linear Models Penalized with SLOPE
`https://CRAN.R-project.org/package=SLOPE`

sgdnet Elastic Net-regularized Generalized Linear Models via the efficient SAGA algorithm
`https://github.com/jolars/sgdnet`

eulerr Area-Proportional Euler diagrams with ellipses
`https://CRAN.R-project.org/package=eulerr`

qualpalr Automatic generation of qualitative color palettes using color difference algorithms
https://CRAN.R-project.org/package=tactile