# Johan Larsson

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#### 1 Education

2018 - now PhD in Statistics, Department of Statistics, Lund University

Supervisors: Jonas Wallin (main), Małgorzata Bogdan (co-supervisor)

Note: Parental leave Jan-Aug 2023

2018 Bachelor's Degree in Statistics, Lund University

Supervisor: Peter Gustafsson

Title: eulerr: Area-Proportional Euler Diagrams with Ellipses

#### 2 Publications

#### 2.1 Published Articles

- [1] J. Larsson, Q. Klopfenstein, M. Massias, and J. Wallin, "Coordinate descent for SLOPE," in *Proceedings of the 26th International Conference on Artificial Intelligence and Statistics*, F. Ruiz, J. Dy, and J.-W. van de Meent, Eds., ser. Proceedings of Machine Learning Research, vol. 206, Valencia, Spain: PMLR, Apr. 25–27, 2023, pp. 4802–4821. [Online]. Available: https://proceedings.mlr.press/v206/larsson23a.html.
- [2] J. Larsson and J. Wallin, "The Hessian screening rule," in *Advances in Neural Information Processing Systems 35*, S. Koyejo, S. Mohamed, A. Agarwal, D. Belgrave, K. Cho, and A. Oh, Eds., vol. 35, New Orleans, USA: Curran Associates, Inc., Nov. 28–Dec. 9, 2022, pp. 15823–15835, ISBN: 978-1-71387-108-8. [Online]. Available: https://papers.nips.cc/paper\_files/paper/2022/hash/65a925049647eab0aa06a9faf1cd470b-Abstract-Conference.html.
- [3] T. Moreau, M. Massias, A. Gramfort, P. Ablin, P.-A. Bannier, B. Charlier, M. Dagréou, T. D. la Tour, G. Durif, C. F. Dantas, Q. Klopfenstein, J. Larsson, E. Lai, T. Lefort, B. Malézieux, B. Moufad, B. T. Nguyen, A. Rakotomamonjy, Z. Ramzi, J. Salmon, and S. Vaiter, "Benchopt: Reproducible, efficient and collaborative optimization benchmarks," in *Advances in Neural Information Processing Systems* 35, S. Koyejo, S. Mohamed, A. Agarwal, D. Belgrave, K. Cho, and A. Oh, Eds., vol. 35, New Orleans, USA: Curran Associates, Inc., Nov. 28–Dec. 9, 2022, pp. 25404–25421, ISBN: 978-1-71387-108-8. [Online]. Available: https://proceedings.neurips.cc/paper\_files/paper/2022/hash/a30769d9 b62c9b94b72e21e0ca73f338-Abstract-Conference.html.
- [4] **J. Larsson**, "Look-ahead screening rules for the lasso," in *22nd European Young Statisticians Meeting Proceedings*, Andreas Makridis, Fotios S. Milienos, Panagiotis Papastamoulis, Christina Parpoula, and Athanasios Rakitzis, Eds., Athens, Greece: Panteion University of Social and Political Sciences, Sep. 6–10, 2021, pp. 61–65, ISBN: 978-960-7943-23-1. [Online]. Available: https://www.eysm2021.panteion.gr/files/Proceedings\_EYSM\_2021.pdf.

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[5] J. Larsson, M. Bogdan, and J. Wallin, "The strong screening rule for SLOPE," in Advances in Neural Information Processing Systems 33, H. Larochelle, M. Ranzato, R. Hadsell, M.-F. Balcan, and H.-T. Lin, Eds., vol. 33, Virtual: Curran Associates, Inc., Dec. 6–12, 2020, pp. 14592–14603, ISBN: 978-1-71382-954-6. [Online]. Available: https://papers.nips.cc/paper\_files/paper/2020/hash/a7d8ae4569120b5bec12e7b6e9648b86-Abstract.html.

[6] **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.

#### 2.2 Theses

[7] **J. Larsson**, "eulerr: Area-proportional Euler diagrams with ellipses," Bachelor thesis, Lund University, Lund, Sweden, 2018, 33 pp. [Online]. Available: http://lup.lub.lu.se/student-papers/record/8934042.

#### 3 Talks

2021, Oct 27	Designing a Distance-Based Course in Data Visualizations: Lessons Learned, Cramér Society Fall Meeting
2021, Sep 21	The Hessian Screening Rule and Adaptive Lasso Paths, Statistics Seminar at the Department of Mathematical Statistics, Chalmers/Gothenburg University
2021, Sep 9	<b>Look-Ahead Screening Rules for the Lasso</b> , European Young Statisticians Meeting (EYSM) $2021$
2020, May 8	The Strong Screening Rule for SLOPE, Statistical Learning Seminar
2018, June 18	A Case Study in Fitting Area-Proportional Euler Diagrams with Ellipses Using eulerr, $\mathit{SetVR}\ 2018$

### 4 Teaching

#### 4.1 Instructor

2020 - 2023	Data Visualization, Department of Statistics, Lund University
2019 - 2021	<b>Statistics: Basic Course</b> , Department of Statistics, Lund University

### 4.2 Teaching Assistant

2021	Introduction to R Programming, Department of Statistics, Lund University
2019 - 2020	Data Mining and Visualization, Department of Statistics, Lund University
2019 - 2021	Statistics for Fire Engineers, Department of Statistics, Lund University
2019	Artificial Intelligence and Deep Learning Methods, Department of Statistics, Lund University

#### 4.3 Course Development

**Data Visualization**, *Department of Statistics, Lund University*Distance-based course in data visualization for students on the undergraduate level.

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# 5 Supervision and Mentorship

**Bachelor's Thesis**, *The Department of Statistics, Lund University* 

Title: TBA

Students: Elias Gullberg

**Bachelor's Thesis**, The Department of Statistics, Lund University

Title: TBA

Students: Marcus Stolz, Jonathan Christopher

2022 Master's Thesis, Data Analysis and Business Analytics, Lund University

Title: Interactive Network Visualization of Insurance Portfolios Students: Gustavo Lemos Borba, Stella Sofia Sologaistoa Betancourt

2019 – 2021 Google Summer of Code, The R Project for Statistical Computing

Students: Qincheng Liu (2019), Akarsh Goyal (2020)

#### 6 Referee Service

2021, 2022 Advances in Neural Information Processing (NeurIPS)
2022 International Conference for Machine Learning (ICML)

#### 7 Comittee Service

2020 – 2022 Statistical Learning Seminar Series

https://statistical-learning-seminars.github.io/

Main organizer

#### 8 Software

**SLOPE** Generalized linear models with the sorted L1 norm

https://CRAN.R-project.org/package=SLOPE

benchopt Reproducible, efficient and collaborative optimization benchmarks

https://benchopt.github.io/

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

### 9 Scholarships

2018 Google Summer of Code, The R Project for Statistical Computing

Project: Fast Sparse Linear Models for Big Data with SAGA

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## 10 Contracted Work

### 2021 WHO Antimicrobial Resistance Dashboard

Contracted work to develop and deploy a visualization dashboard for WHO's Antimicrobial Resistance team in Europe.