

Erik-Jan van Kesteren

Utrecht – Netherlands

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🌐 vankesteren



Summary

Data science & statistics researcher, experienced teacher, consultant, and programmer. My research is guided by social science applications. I have worked on structural equation modeling, regularization & penalization, Bayesian statistics, multilevel generalized linear models, geospatial data analysis, visualisation, optimization, federated learning, privacy, fairness, measurement, synthetic data, and more.

Experience

Assistant Professor Human Data Science Utrecht University, Netherlands	2020 - Present
<ul style="list-style-type: none">● Team lead for the ODISSEI Social Data Science team (odissei-soda.nl)● Teaching various applied data science & statistics courses	
PhD Methodology & Statistics Utrecht University, Netherlands	2017 - 2020 Cum laude
<ul style="list-style-type: none">● Dissertation DOI:1874/401115● NWO Talent Grant project: Extending structural equation models to accommodate novel data sources● Supervisor: Dr. Daniel L. Oberski● Spring 2019: Research visit at Cambridge MRC CBU on brain structure covariance with Rogier Kievit	
Statistical Programmer / Software Developer JASP, University of Amsterdam	2016 - 2020
Software development for JASP, an accessible, open-source application for performing statistical analysis	
MSc Methodology & Statistics Utrecht University	2015 - 2017 Cum laude
Thesis: How correlations between genes influence class prediction models	
Data Professional Douwe Egberts Master Blenders 1753	2014 – 2015
Responsible for data reports, data quality checks, data dashboards for various departments	
MSc Organisational & Social Psychology London School of Economics	2013 - 2014 With distinction
Thesis: Trust in teams collaborating virtually	
BA (Hons) Social Sciences University College Utrecht	2010 - 2013 Summa cum laude
Psychology, Economics, Neuroscience, Statistics	

Selected publications

van Kesteren, E. J., & Bergkamp, T. (Under review). Bayesian Analysis of Formula One Race Results: Disentangling Driver Skill and Constructor Advantage. arXiv preprint

- Preprint: <https://arxiv.org/abs/2203.08489>
- Software: <https://github.com/vankesteren/f1model>

Lutig, P., van Kesteren, E. J., & Timmers, A. (2022). Correcting inferences for volunteer-collected data with geospatial sampling bias. arXiv preprint

- Preprint: <https://arxiv.org/abs/2209.04193>
- Software: https://github.com/sodascience/night_globe

Van Kesteren, E. J., & Oberski, D. L. (2022). Flexible extensions to structural equation models using

computation graphs. *Structural Equation Modeling: A Multidisciplinary Journal*, 29(2), 233-247. DOI: 10.1080/10705511.2021.1971527

- Preprint: <https://arxiv.org/abs/1905.04492>
- Software: <https://github.com/vankesteren/tensorsem>

Van Kesteren, E. J. & Kievit, R. K. (2020). Exploratory factor analysis with structured residuals for brain network data. *Network Neuroscience*, 1-27, DOI: 10.1162/netn_a_00162

- Preprint: <https://doi.org/10.1101/2020.02.06.933689>
- Software: <https://github.com/vankesteren/efast>

Van Kesteren, E. J. Sun, C., Oberski, D. L., Dumontier, M. J. & Ippel, G. J. E. (Under review). Privacy-preserving generalized linear models using distributed block coordinate descent. arXiv preprint

- Preprint: <https://arxiv.org/abs/1911.03183>
- Software: <https://github.com/vankesteren/privreg>

Van Kesteren, E. J. & Oberski, D. L. (2019). Exploratory Mediation Analysis with Many Potential Mediators. *Structural Equation Modeling: A Multidisciplinary Journal*, DOI: 10.1080/10705511.2019.1588124

- Preprint: <https://arxiv.org/abs/1810.06334>
- Software: <https://github.com/vankesteren/cmfilter>

Conference Presentations

Netherlands National Open Science Festival	August 2022
How to Create Synthetic Data: a Tool for Open Science	
European DDI User Conference	December 2021
Generating synthetic data on the basis of metadata	
ECAI Workshop: AI for a Fair, Just and Equitable World (Online)	August 2020
Fair Inference on Error-Prone Outcomes	
Bayesian SEM meeting (Ghent; BE)	June 2019
Structural Equation Modeling using Computation Graphs	
SEM Working Group Conference (Tübingen; DE)	March 2019
Extending Structural Equation Modeling using Insights from Deep Learning	
Modern Modeling Methods Conference (Boston, MA; USA)	May 2018
Exploratory Mediation Analysis with Many Potential Mediators	
SEM Working Group Conference (Amsterdam; NL)	February 2018
Exploratory Mediation Analysis with Many Potential Mediators	

Teaching

Battling the curse of dimensionality	2021 - Present
● Master's level course on statistical learning with a focus on high-dimensional problems	
● Course coordination, lecturing	
● Materials built from scratch: https://www.infomda2.nl	
Data Wrangling and Data Analysis	2019 - Present
● Master's level course on statistical learning, R programming for data science	
● Course coordination, workgroups	
Data Analysis & Visualisation	2017 - 2020
● Master's level course on statistical learning, R programming for data science	
● Course coordination, lecturing	
Statistical Programming with R	2017 - 2020

- Week-long summer course at the Utrecht Summer School
- With dr. Gerko Vink
- Materials: <https://www.gerkovink.com/Statistical-Programming-with-R/>

Thesis supervision 2016 - Present

- Supervision of theses in methodology & statistics
 - Interim analysis / early stopping of experiments (Bachelor's thesis, with Prof. Irene Klugkist)
 - Reducing overfitting in structural equation models (Master's thesis, with Dr. Daniel Oberski)

Statistical consultation 2016 - Present

- Statistical consultation for bachelor, master, and PhD students
- Part of the Methods & Statistics consultation shop

Awards & Honours

NWO Research talent grant 2017

Netherlands Organisation for Scientific Research (NWO)

Full personal grant for my PhD position at Utrecht University, awarded for the project New Dimensions in Social Science: Extending structural equation models to accommodate novel data sources.

JASP Annual Contributor Award 2017

JASP

Award for my contributions to the JASP open-source project, see the [award text](#)

Bright Minds Award 2016

Dare to Cross Over conference

Award for my pitch of our [Young Innovators honours project](#)