Silke K. Kaiser

PhD Student in Applied Machine Learning · Berlin School of Economics

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Education

Berlin School of Economics / Hertie School Berlin — *Berlin, Germany*

PhD Applied Machine Learning — *2020 - present*

- Advisor: Prof. Lynn Kaack
- Faculty: Data Sciences Lab & Center for Sustainability
- Topic: Machine Learning Applications to Traffic Volume Estimation in Cities

Université Panthéon-Sorbonne & Ca'Foscari — *Paris, France & Venice, Italy*

M.Sc. Models and Methods of Quantitative Economics — *2018 - 2020*

- Erasmus Mundus Master
- Graduated top of my class

SciencesPo — *Paris, France*

M.Sc. Economics — *2018 - 2020*

- Graduated cum laude

Westfälische Wilhelms-Universität — *Münster, Germany*

B.A. Political Sciences and Economics — *2013 - 2017*

- Focus in Econometrics

Professional Experience

2021-pres.	**Research Assistant Econometrics**, Humboldt-University, Berlin (Germany)
2019-2020	**Research Assistant Econometrics** , SciencesPo, Paris (France)
2018	**Internship**, Institute for Ecological Economic Research (IÖW), Berlin (Germany)
2017	**Internship**, Miller & Meier Consulting, Berlin (Germany)
2016	**Internship**, German Embassy, Pretoria (South Africa)

Publications

Published

Kaiser S.K.,, Klein N., Kaack L.H. From counting stations to city-wide estimates: data-driven bicycle volume extrapolation. Environmental Data Science. 2025;4:e13. Link here

Chevance, G., Nieuwenhuijsen, M., Braga, K., Clifton, K., Hoadley, S., Kaack, L. H., **Kaiser S.K.**, Lampkowski M., Lupu I., Radics M., Velázquez-Cortés D., Williams S., Woodcock J., Tonne C. Data gaps in transport behavior are bottleneck for tracking progress towards healthy sustainable transport in European cities. Environmental Research Letters. 2024 19.55 051002 Link here

In Review

Kaiser, S. K., Rodrigues, F., Azevedo, C. L., Kaack, L. H. (2025). Spatio-Temporal Graph Neural Network for Urban Spaces: Interpolating Citywide Traffic Volume. arXiv preprint arXiv:2505.06292. Link here

In Preperation

Kaiser S.K.. Traffic Sensor Placement in Cities: A Data-Driven Approach. 2025

Misc

Kaiser S.K. Opinion piece on "Pedalling Towards a Greener Future" 08/09/23 Link here

Awards, Fellowships, & Grants

2020-2022	**Scholarship PhD**, Friedrich Ebert Stiftung	*Full PhD stipend*
2020-2022	**Scholarship PhD**, Berlin School of Economics	*Full PhD stipend*
2018-2020	**Scholarship Master**, German Academic Exchange Service (DAAD)	*Full living stipend and coverage of student fees*
2014-2020	**Scholarship Master & Bachelor**, Studienstiftung des dt. Volkes	

Presentations

Invited Talks (selected)

Summer 2024 *From counting stations to city-wide estimates: data-driven bicycle volume extrapolation*. What works climate solutions summit, Berlin, Germany Summer 20234 *From counting stations to city-wide estimates: data-driven bicycle volume extrapolation*. hEART conference, Helsinki, Finland Spring 2023. *Predicting Cycling Traffic in Cities: Is bike-sharing data representative for the cycling volume?*. Conference Presentation: ICLR Workshop Tackling Climate Change, Kigali, Rwanda Spring 2023. *Big Data Approaches for Addressing Data Gaps in Transport*. Active Travel Utilization Data workshop, online

Workshops

Spring 2023. **Machine Learning in Economics** Organizer. Berlin, Germany Fall 2025. **Big Data for Cycling in Cities** Organizer. Berlin, Germany

Teaching Experience

Fall 2024 & 2023 & 2022	**Applied Econometrics**, Teaching Assistant
Spring 2025& 2024 & 2023 & 2022	**Introduction to Econometrics**, Teaching Assistant
Fall 2021	**Time Series Econometrics, PhD**, Teaching Assistant

Languages

German	**Native Speaker**,
English	**Near native**, C2, TOEFL: 120 points
French	**Fluent**, C1/C2, DALF: C1

Coding

Python	**very good**,
R	**very good**,
Julia	**intermediate**,
MATLAB	**intermediate**,
STATA	**intermediate**,