Simon Freyaldenhoven

https://simonfreyaldenhoven.github.io/

CONTACT INFORMATION

Research Department
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PROFESSIONAL POSITIONS

Federal Reserve Bank of Philadelphia, Philadelphia, PA, USA
- Senior Machine Learning Economist, 2022 - present
- Machine Learning Economist, 2018 - 2021

Brown University, Providence, RI, USA
- Visiting Assistant Professor, Spring 2018

EDUCATION

Brown University, Providence, RI, USA
- Ph.D., Economics, January 2018
- *Thesis Title: Essays on Factor Models and Latent Variables in Economics*
- M.A., Economics, May 2013

Maastricht University, Maastricht, The Netherlands
- M.Sc., Econometrics and Operations Research, August 2012
- B.Sc., Econometrics and Operations Research, August 2011

PUBLICATIONS

Visualization, Identification, and Estimation in the Linear Panel Event Study Design (with Chris Hansen, Jorge Pérez Pérez, and Jesse Shapiro), *Advances in Economics and Econometrics: Twelfth World Congress*, forthcoming. **DOI**
- **Youtube channel with explainer videos** (42,000+ views)
- **R package** (8,500+ downloads)
- **Stata package** (21,000+ downloads)

xtevent: Estimation and Visualization in the Linear Panel Event-Study Design (with Chris Hansen, Jorge Pérez Pérez, Jesse Shapiro, and Constantino Carreto), *Stata Journal*, March 2025. **DOI**
- **Faculti Coverage**

Factor Models with Local Factors - Determining the Number of Relevant Factors, *Journal of Econometrics*, May 2022. **DOI**
- Winner of the Dennis Aigner prize for the best empirical paper published in 2021-22 in the Journal of Econometrics

Pre-event Trends in the Panel Event-study Design (with Chris Hansen and Jesse Shapiro), *American Economic Review*, September 2019. **DOI**

Working Papers

Identification through Sparsity in Factor Models: The ℓ_1-rotation criterion DOI

On the Testability of the Anchor-words Assumption in Topic Models (with Shikun Ke, Dingyi Li, and Pepe Montiel Olea) DOI

Measuring Fairness in the US Mortgage Market (with Hadi Elzayn, Ryan Kobler, and Minchul Shin) DOI

- **Interactive dashboard to explore results**

(Visualizing) Plausible Treatment Effect Paths (with Chris Hansen) DOI

Precision Without Labels: Detecting Cross-Applicants in Mortgage Data Using Unsupervised Learning (with Hadi Elzayn, and Minchul Shin) DOI

Affiliations

Brown University, Data Science Initiative, 2018

Academic Conferences and Seminars

2025 (including scheduled)

Maastricht University; Federal Reserve System Equitable Growth Meeting; New York Camp Econometrics

2024

Banco de México; University of Bonn; ITAM; Econometric Society Interdisciplinary Frontiers Economics and AI+ML Meeting; Federal Reserve System Econometrics Meeting

2023

University of Cologne; Annual Meeting of the International Association for Applied Econometrics; Econometric Society European Summer Meeting; NBER/NSF Time Series Conference

2022

University of Connecticut; RCEA Conference on Recent Developments in Economics, Econometrics and Finance; Barcelona Summer Forum - Advances in Econometrics; Philadelphia FED Conference on Frontiers in Machine Learning and Economics: Methods and Applications; Interagency Risk Quantification Forum (discussant)

2021

Federal Reserve Bank of New York; University of Geneva; Econometric Society European Meeting; New perspectives on Consumer Behavior in Credit and Payments Markets conference (discussant); Federal Reserve System Econometrics Meeting (discussant)

2020

Brown University; World Congress of the Econometric Society; Federal Reserve System Econometrics Meeting; The Society for Financial Econometrics seminar (discussant)

2019

University of Pennsylvania; Bundesbank; Annual Meeting of the International Association for Applied Econometrics; Federal Reserve System Econometrics Meeting (discussant); NBER-EFSF Workshop on Methods and Applications for DSGE Models (discussant); Southern Economic Association Annual Meeting; Greater New York Econometrics Colloquium; European Conference of the Econom[etr]ics Community

2018

University of Konstanz; University of St. Gallen; European School of Management and Technology; University of Amsterdam; University of Virginia; Federal Reserve Bank of Philadelphia; Interagency Risk Quantification Forum (discussant)

2017

NBER/NSF Time Series Conference; CIREQ Econometrics Conference

2016

European Conference of the Econom[etr]ics Community; Maastricht Workshop on Advances in Quantitative Economics

Fellowships and Awards

Dennis Aigner prize (awarded to the best empirical paper published in 2021-22 in the Journal of Econometrics), 2023

George Borts Prize (awarded annually to the best dissertation in Economics at Brown University), 2018

Teaching

Brown University, Providence, RI, USA

Big Data, Spring 2018

Refereeing

American Economic Journal: Applied Economics • American Economic Review • American Economic Review: Insights • Annals of Statistics • Econometrica • Econometric Reviews • Econometric Theory • Health Economics • International Journal of Forecasting • Journal of Applied Econometrics • Journal of Business & Economic Statistics • Journal of Econometrics • Journal of Economic Dynamics and Control • Journal of Political Economy • Journal of Political Economy Microeconomics • Journal of Statistical Planning and Inference • Journal of the American Statistical Association • Operations Research • Quarterly Journal of Economics • The Review of Economics and Statistics • The Review of Economic Studies • ACM Conference on Economics and Computation

Conferences organized

Conference on Frontiers in Machine Learning and Economics: Methods and Applications (2022, 2024, 2025) • Young Scholars Conference on Machine Learning in Economics and Finance (2021, 2022, 2023)

Grant reviewing

Deutsche Forschungsgemeinschaft; National Science Foundation

Advising

Le Xu, University of Pennsylvania, 2020. Placement: Shanghai Jiao Tong University