

Sebastian Steffen

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Curriculum Vitae

EDUCATION

- MIT Sloan**, Cambridge, MA 2016 – Present
- Ph.D. in Management
 - Expected Graduation: May, 2022
 - Dissertation Committee: Erik Brynjolfsson, Sinan Aral, John Horton
 - Focus areas: Information Technology, Future of Work, Human Capital
 - Course work: Labor Economics, Machine Learning, NLP, Econometrics, Microeconomics, Networks
- MIT Sloan**, Cambridge, MA 2016 – 2020
- Master of Science in Management Research
- Princeton University**, Princeton, NJ 2009 – 2013
- Bachelor of Arts in Economics, *magna cum laude*, 2013

PAPERS

Job Market Paper:

[*Occupational Skill Compositions and the Values of Skills: Panel Estimates from 200 million online Job Postings.*](#)
July 2021.

Publications:

- [*Learning Occupational Task-Shares Dynamics for the Future of Work*](#) (with Subhro Das, Wyatt Clarke, Prabhat Reddy, Erik Brynjolfsson, and Martin Fleming). *Proceedings of the AAAI/ACM Conference on AI, Ethics, and Society*, February 2020.
- [*What Makes the Jobs of Tomorrow? The “What” and “Why” of Labor Outcomes from Technological Change*](#) (with Christophe Combemale, Jenna Myers, Anna Waldman-Brown, Laurence Ales, Erik Brynjolfsson, Erica Fuchs, and Kate Whitefoot). *Proceedings of the Academy of Management*, July 2021.

Working Papers:

- [*Digital Resilience: How Work-From-Home Feasibility Affects Firm Performance*](#) (with John Bai, Erik Brynjolfsson, Wang Jin, and Chi Wan; under review at *ISR*). *NBER Working Paper No. 28588*, March 2021.
- [*Cybersecurity Hiring in Response to Data Breaches*](#) (with Sarah Bana, Erik Brynjolfsson, Wang Jin, and Xiupeng Wang). *SSRN Working Paper*, March 2021.
- *Job2Vec: Learning a Representation of Jobs* (with Sarah Bana, Erik Brynjolfsson, and Daniel Rock). February 2021.
- *Occupational Change: Automation and Reskilling Risks*. March 2020.

The U.S. Federal Statistical Research Data Center (FSRDC) Projects:

- Firms Characteristics, Technology Adoption, and Labor Market Outcomes (Census Approved, Under IRS Review)
- Validating and Improving the ASM-MOPS (Census Internal, Active)

Work in Progress:

- Competing for IT Talent: Market Concentration and the Demand for Frontier IT Skills in the Digital Age (with Wang Jin, and Erik Brynjolfsson).

- Estimating Labor Mobility from Professional Social Network data.
- Skills and Technological Change: A Comparison between Germany and the U.S. (with Georgios Petropoulos).

PATENTS

- *Methods and system for skills & tasks demand forecasting* (with Subhro Das, Wyatt Clarke, Prabhat Reddy, Erik Brynjolfsson, and Martin Fleming). U.S. Patent Application 17/159,449, 2021.

AWARDS AND GRANTS

- Google-Stanford HAI Academic Compute Grant (for ‘*Job2Vec*’ with S. Bana, E. Brynjolfsson, and D. Rock) 2021
- Wharton Dean’s Research Fund Grant (with D. Rock) 2021
- Google Academic Cloud Grant (for ‘*Job2Vec*’ with S. Bana, E. Brynjolfsson, and D. Rock) 2020
- Kaufman Teaching Certificate Program 2019
- MIT-IBM Watson AI Lab Grant 2018

RESEARCH AFFILIATIONS

- Stanford Digital Economy Lab ([S-DEL](#)) – Graduate Research Affiliate 2020 – Present
- U.S. Census Special Sworn Status (SSS) 2018 – Present
- Association for Information Systems (AIS) 2016 – Present
- LinkedIn – Economic Graph Challenge Affiliate Researcher 2016 – Present
- MIT Initiative on the Digital Economy ([MIT IDE](#)) – Graduate Research Affiliate 2015 – Present

CONFERENCE PRESENTATIONS

- *ASSA*, Paper Presentation, Virtual. January, 2022
- *CIST*, Paper Presentation, Los Angeles. October, 2021
- *Academy of Management (AOM)*, Paper Presentations, Virtual. August, 2021
- *Munich Summer Institute*, Paper Presentation, Virtual. June, 2021
- *IC2S2*, Paper Presentation, Virtual. July, 2020
- *WISE*, Paper Presentation, Munich. December, 2019
- *MIT IDE Annual Conference*, Paper Presentation, Cambridge, MA May, 2019

POSTER PRESENTATIONS

- *AAAI/ACM*, Poster Presentation, New York. February, 2020

INVITED TALKS

- Annual Workshop, Stanford Digital Economy Lab, Stanford, CA. November, 2021
- *Understanding the Covid Economy: The Impact on Firms*, UNSW CAER, Virtual. October, 2021
- *MIT IDE Digital Economy Seminar*, Virtual. April, 2021
- *CMU-Pitt Seminar on Information Technology & Economics (SITE)*, Virtual. February, 2021
- *Cornell Innovation, Entrepreneurship, and Technology (IET) Seminar*, Virtual. November, 2020
- *Disrupting the Poverty Cycle*, Economic Mobility Pathways (EmPath), Virtual. October, 2020
- *MIT IDE Digital Economy Seminar*, Virtual. April, 2020
- *MIT Economics Labor Lunch Seminar*, Cambridge, MA. September, 2019
- *Boston University Lecznar Memorial Lecture*, Boston, MA. June, 2019

TEACHING EXPERIENCE

- **Global Organizations (GO-) Lab (15.708)**, Teaching Assistant January 2021 – May 2021
 - Overall Student Rating: 7.0 (out of 7)

Stanford Digital Economy Lab (S-DEL) Seminar, Organizer January 2021 – May 2021
MIT Initiative for Digital Economy (IDE) Seminar, Organizer September 2018 – May 2020
Economics of Information and Technology (15.575), Teaching Assistant September 2019 – December 2019

- Overall Student Rating: 6.8 (out of 7)

Analytics (A-) Lab, Teaching Assistant 2017, 2021

- Engaged with businesses to select and vet project proposals for ML Analytics class. Mentored MBA, MFin students on business project by giving guidance on data wrangling, inference, analysis, and presentation.
- Mentored several student teams during each semester.

Research Computing for Economists, Co-Instructor September, 2019

- Joint workshop with David Autor and Mayara Felix for Economics PhD students

WORKSHOP PARTICIPATION

- *ICIS Doctoral Consortium*, Austin. December, 2021
- *AOM TIM Doctoral Consortium*, Virtual. August, 2021
- *CodeChella Econometrics Workshop*, Virtual. July, 2021
- *Adaptation to AI-Enabled Automation Workshop*, S-DEL, Virtual. February, 2021
- *Positive AI Economic Futures Workshop*, S-DEL, Virtual. December, 2020
- *AOM AI Professional Development Workshop 2019*, Boston. August, 2019
- *NBER Digitization Tutorial*, Stanford. March, 2019
- *NBER Workshop on Economics of Artificial Intelligence*, Toronto. September, 2018

RESEARCH ASSISTANCE

- [*When Celebrities Speak: A Nationwide Twitter Experiment Promoting Vaccination in Indonesia*](#) (Vivi Alatas, Arun G. Chandrasekhar, Markus Mobius, Benjamin A. Olken, and Cindy Paladines). *NBER Working Paper No. 25589*, February 2019.
- [*The Impact of Aggregators on Internet News Consumption*](#) (Susan Athey, Markus Mobius, Jenő Pal). *NBER Working Paper No. 28746*, April 2021.

SERVICE

- Session Chair, *WISE*, Austin, TX 2021
- Invited Reviewer for
 - MISQ 2020, 2021
 - Management Science 2020, 2021
 - Conference on Information Systems and Technology (CIST) 2020
 - MIT Sloan Sports Analytics Conference 2018 – Present
 - International Conference on Information Systems (ICIS) 2018 – Present
- Paper Discussant, *WISE*, San Francisco, CA 2018

PRIOR WORK EXPERIENCE

LinkedIn – Economic Graph Research (EGR) Group, San Francisco/Sunnyvale, Data Science Intern
June 2018 – September 2018

Microsoft Research New England, Cambridge, Research Assistant
May 2014 – June 2016

Cornerstone Research, Boston, Analyst
June 2013 – May 2014

Nephrology/Dialysis Station – University of Greifswald, Greifswald, Civil Servant
August 2008 – April 2009

SKILLS

- **Programming Languages:** R, Python, STATA, Scope, Spark, SQL
- **Software/Platforms:** Google Cloud, AWS, Git, Microsoft Office, LaTeX, ArcGIS, Gephi, Vim
- **Languages:** German (native), English (fluent), French (advanced, Certificat C1), Chinese (Beginner)

- **Sprinting:** [2008 200m German Men's National Championships \(5th Place\)](#), 2007 400m German Junior National Championships (2nd Place)
- **Hobbies:** Guitar, Squash, Crafting, Bread and Pasta Making, Magic: The Gathering, Vintage Ads