

# Sebastian Steffen

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## Curriculum Vitae

### EMPLOYMENT

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**Boston College Carroll School of Management**, Boston, MA 2022 – Present

- Assistant Professor, Business Analytics Department

### EDUCATION

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**MIT Sloan School of Management**, Cambridge, MA 2016 – 2022

- Ph.D. in Management
- Dissertation: Essays on Information Technologies, Human Capital, and the Future of Work
- Dissertation Committee: Erik Brynjolfsson, Sinan Aral, John Horton
- Focus areas: Information Technology, Future of Work, Human Capital

**MIT Sloan School of Management**, Cambridge, MA 2016 – 2020

- Master of Science in Management Research

**Princeton University**, Princeton, NJ 2009 – 2013

- Bachelor of Arts in Economics, *magna cum laude*

### PAPERS

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#### 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; R&R 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.
- Work2Vec: 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

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- *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

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- 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

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- 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

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- 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

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

## INVITED TALKS

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- 2022 MIT Sloan Doctoral Research Forum, Cambridge, MA. May, 2022
- HAI – Google Research Token Updates, Virtual. April, 2022
- 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

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<b>Global Organizations (GO-) Lab (15.708)</b> , Teaching Assistant	2021, 2022
• Overall Student Rating: 7.0 (out of 7)	
<b>Stanford Digital Economy Lab (S-DEL) Seminar</b> , Organizer	January 2021 – May 2021
<b>MIT Initiative for Digital Economy (IDE) Seminar</b> , Organizer	September 2018 – May 2020
<b>Economics of Information and Technology (15.575)</b> , Teaching Assistant	September 2019 – December 2019
• Overall Student Rating: 6.8 (out of 7)	
<b>Analytics (A-) Lab</b> , 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.	
<b>Research Computing for Economists</b> , Co-Instructor	September, 2019
• Joint workshop with David Autor and Mayara Felix for Economics PhD students	

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## WORKSHOP PARTICIPATION

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

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## 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.

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## SERVICE

• Session Chair, <i>WISE</i> , 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, <i>WISE</i> , San Francisco, CA	2018

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## PRIOR WORK EXPERIENCE

<b>LinkedIn – Economic Graph Research (EGR) Group</b> , San Francisco/Sunnyvale, Data Science Intern	June 2018 – September 2018
<b>Microsoft Research New England</b> , Cambridge, Research Assistant	May 2014 – June 2016
<b>Cornerstone Research</b> , Boston, Analyst	June 2013 – May 2014
<b>Nephrology/Dialysis Station – University of Greifswald</b> , Greifswald, Civil Servant	August 2008 – April 2009

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## 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 \(5<sup>th</sup> Place\)](#), 2007 400m German Junior National Championships (2<sup>nd</sup> Place)
- **Hobbies:** Guitar, Squash, Crafting, Bread and Pasta Making, Magic: The Gathering, Vintage Ads