Sebastian Steffen
12 Remington Street, Apt. 306
Cambridge, MA 02138
ssteffen@mit.edu
www.sebastiansteffen.com
@sebbie88

EDUCATION

MIT Sloan, Cambridge, MA   2020 – Present
- Ph.D. in Management
- Focus areas: Information and Technology, Labor Economics, Future of Work
- Advisor: Erik Brynjolfsson
- Course work: Labor Economics, Machine Learning, NLP, Econometrics, Micro Economics, 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
- Departmental GPA: 3.83, Overall GPA: 3.61

WORK EXPERIENCE

Lunch Seminar – Initiative for Digital Economy (IDE), Organizer   September 2018 – Present
- Invited and organized logistics for guest speakers

Economics of Information and Technology (15.575), Teaching Assistant   September 2019 – December 2019
- Overall Student Rating: 6.8 (out of 7)

LinkedIn – Economic Graph Group, Data Science Intern   June 2018 – September 2018
- Analyzed internal experiments on wage transparency and its effect on job search behavior.
- Created IT proxy metrics from firms' human capital assets.
- Wrote Pig and Python scripts to create labor mobility matrices.

Analytics Lab – Initiative for Digital Economy (IDE), Teaching Assistant   June 2017 – December 2017
- Engaged with businesses to select and vet project proposals for ML Analytics class. Mentored MBA students on business project by giving guidance on data wrangling, inference, analysis, and presentation.
- Mentored several student teams during the fall semester.

Microsoft Research New England, Research Assistant   May 2014 – June 2016
- Wrote C# and Scope code to identify and scrape news site articles for Athey, Mobius, Pal (2017). Worked with explicit semantic analysis and Louvain community detection to match articles to Wikipedia topics.
- Continuously scraped twitter for hashtag activity and recovered their network structure for Alatas et al. (2018).

RESEARCH

Occupational Drift: An NLP Application to Job Postings and Tasks   April 2018 – Present
- I create an embedding space of millions of online job postings from their NLP-extracted text features as well job-level O*Net and automation variables to study the evolution of occupations over time as well as their similarity.
- I fit several models, including neural nets, to predict wages. I plan to analyze the occupations' past drift patterns to predict how future wages may be affected by deeper automation and IT penetration.

Estimating Returns to Skills from Job Vacancies   February 2019 – Present
- Using annotated job vacancies from Burning Glass Technologies I reestimate returns to skills how these have changed over time.

Stepping Stone Jobs and Skill Diffusion   September 2018 – Present

- Using LinkedIn data I build a panel career dataset to identify stepping stone jobs and career-beneficial skills. Does the diffusion and network saturation of skills affect their marketability? How do the transition probabilities change with the economy, and the progression of automation and time?

PAPERS

Publications:
1. Subhro Das, Sebastian Steffen, Wyatt Clarke, Prabhat Reddy, Erik Brynjolfsson, Martin Fleming. Learning Occupational Task-Shares Dynamics for the Future of Work. *In Proceedings of the Third AAAI/ACM Conference on AI, Ethics, and Society (AIES-20)*, New York, USA, 2020.

Working Papers:
1. Sebastian Steffen: Returns to Skills Revisited. *Working Paper*, 2020.

Research Assistance:
1. Alatas et al. (2018). When Celebrities Speak: A Nationwide Twitter Experiment Promoting Vaccination in Indonesia. *NBER Working Paper*, 2019.
2. Athey, Mobius, Pal (2017). The Impact of Aggregators on Internet News Consumption. *Working Paper*, 2020.

AWARDS AND ASSOCIATIONS

- Google Cloud GCP Research Credits for 'job2vec' with Sarah Bana, Erik Brynjolfsson, and Daniel Rock
  March, 2020
- Kaufman Teaching Certificate Program   June, 2019
- Census Special Sworn Status

WORKSHOPS AND CONFERENCES

- *IDE Lunch Seminar*, Paper Presentation, Cambridge.   April 2020
- *AAAI/ACM*, Poster and Long Paper Presentation (presented by Subhro Das), 'Learning Occupational Task-Shares Dynamics for the Future of Work', New York.   February 2020
- *WISE*, Paper Presentation, 'Occupational Change and Reskilling Risks', Munich.   December 2019
- *AOM AI Professional Development Workshop 2019*, Participant, Boston.   August 2019
- *IDE Annual Conference,* Long Paper Presentation, 'Occupational Change of Skill Distributions', Cambridge.   May 2019
- *NBER Digitization Tutorial*, Participant, Stanford.   March 2019
- *WISE*, Discussant for Bakos, Halaburda, 'Platform Competition with Multihoming on Both Sides – Subsidize or Not?, San Francisco.   December 2018
- *NBER Workshop on Economics of Artificial Intelligence*, Participant, Toronto.   September 2018

REVIEWS

- Management Science   2020
- MIT Sloan Sports Analytics Conference   2020
- ICIS   2018 – Present

SKILLS

- **Programming Languages:** R, Python, STATA, C#, Matlab, Scope, Spark, Pig, Java, VBA, Mathematica
- **Software:** Microsoft Office, LaTeX, Gephi, Acrobat Pro, ArcGIS, Powershell, Azure
- **Languages:** German (native), English (fluent), French (advanced), Chinese (Beginner)
- **Other:** Running, Squash, Guitar, Crafting, Cooking, Reading, Magic the Gathering, Sourdough Bread