

MATTEO BONVINI

Email: mbonvini@andrew.cmu.edu Cell: (+1) 857 919 9884

4500 Centre Avenue
Pittsburgh, PA 15213

Via Santa Franca 63
29121 Piacenza, Italy

EDUCATION

Carnegie Mellon University

Ph.D. candidate in Statistics.
M.S. in Statistics.

Pittsburgh, PA
Expected May 2022
December 2019

Harvard University

B.A. *cum laude* and high honors in Statistics. Thesis: A Study on Tests of MCAR.

Cambridge, MA
May 2016

RESEARCH EXPERIENCE

Carnegie Mellon University, Department of Statistics & Data Science

Ph.D. Researcher (Advisor: Edward Kennedy)

Pittsburgh, PA
August 2017 – present

- Work on novel sensitivity analysis framework; derive new estimators for treatment effects on the treated with noncompliance; investigate bandwidth choice in the context of regression discontinuity designs.

Advanced Data Analysis Project (Advisor: Edward Kennedy, Co-Advisor: Lindsay Page)

November 2017 – December 2018

- Estimated causal effects from experiment in education with multivariate treatment and partial compliance.

Massachusetts Institute of Technology, Critical Data

Member

Cambridge, MA
January 2016 – September 2017

- Worked on modeling baseline serum creatinine values for patients in the ICU using machine learning algorithms.

Harvard University, Department of Statistics

Independent Research Projects (Advisor: Victoria Liublinska)

Cambridge, MA
December 2013 – April 2016

- Formulated extensions to existing MCAR tests and studied their performances in simulations (Mar. 2015 – Apr. 2016).
Performed simulations on model selection criteria (Dec. 2013 – Jun. 2014).

Harvard Business School

Research Assistant for Professors Josh Lerner, Erin Scott, Pian Shu

Cambridge, MA
June 2014 – December 2015

- Summarized literature and analyzed data on the relationship between professor attributes and student achievement.
Analysis for the project “Transitions into Entrepreneurship and Career Progressions of HBS Alumni” (Jun. – Aug. 2014).

WORK EXPERIENCE

Cornerstone Research

Analyst

Boston, MA
June 2015 – June 2017

- Worked closely with industry experts to estimate damages for commercial litigations. Conducted “but-for” analyses to assess causal claims made during the litigation process. Co-edited expert reports for litigations in the pharmaceutical and financial services industries (Sept. 2016 – Jun. 2017).
- Worked as a summer analyst on litigations in the financial services and pharmaceutical industries (Jun. – Aug. 2015).

TEACHING EXPERIENCE

Carnegie Mellon University, Department of Statistics & Data Science

Primary Instructor

- Introduction to Statistical Inference (36-226)

Summer 2019

Teaching Assistant

- Undergraduate Advanced Data Analysis (Head TA) (36-402)
- Statistical Graphics and Visualization (36-315)
- Statistical Graphics and Visualization (36-315)

Spring 2019

Spring 2018

Fall 2017

AWARDS & HONORS

Academic & Research

- Harvard Business School PRIMO Fellowship
- Harvard College Scholar

Summer 2014
2013 – 2014

Teaching

- Carnegie Mellon University, Department of Statistics & Data Science “Best TA of the Year” Award Spring 2019

SKILLS

Languages: Italian (native language), fluent English and conversational French.

Computer: R, STATA, SAS, Python, MATLAB, LaTeX. Familiar with AMPL, OCaml, and Java.

REFeree SERVICE

Statistical & Methodological Journals

International Journal of Biostatistics, Journal of the Royal Statistical Society: Series B, Statistics in Medicine.

Medical & Other Scientific Journals

Circulation.

PUBLICATIONS & MANUSCRIPTS

5. **Bonvini, M.** and Kennedy, E. H.. Sensitivity analysis via the proportion of unmeasured confounding. *arXiv preprint arXiv:1912.02793*, 2019.

4. Dauvin, A., Donado C., Bachtiger, P., Huang, K., Sauer, C. M., Ramazzotti, D., **Bonvini, M.**, and Celi, L.A.. Machine learning can accurately predict pre-admission baseline hemoglobin and creatinine in intensive care patients. *npj Digital Medicine*, 2 (1), 1-10, 2019.

3. Pricolo, V. E., Viani, K., **Bonvini, M.**, Abelli, C. and McDuffie, T.. Challenges in management of squamous cell carcinoma of the anus in New England and across the United States - a review of the National Cancer Data Base. *American Journal of Clinical Oncology*, 41 (7), 662-666, 2018.

2. Pricolo, V. E., **Bonvini, M.** and Abelli, C.. Patterns of care for anal cancer in the United States: a comparison between academic and community cancer centers. *BMC Cancer*, 18 (1), 567, 2018.

1. Pricolo, V. E., Fei, P., Crowley, S., Camisa, V. and **Bonvini, M.**. A novel enhanced recovery protocol for colectomy, combining multimodal analgesia with pharmacologic intervention, reduces postoperative opioids use and hospital length of stay. *International Journal of Surgery Open*, 13, 24-28, 2018.

INVITED CONFERENCE PRESENTATIONS

5. International Conference on Computational & Methodological Statistics, London, United Kingdom. (12/2019)

4. Joint Statistical Meetings, Denver, CO. (7/2019).

3. Atlantic Causal Inference Conference, Montreal, Canada (5/2019).

2. Joint Statistical Meetings, Vancouver, Canada. (8/2018).

1. Atlantic Causal Inference Conference, Pittsburgh, PA (5/2018).