

Charlotte Zilber Mann

Curriculum Vitae

October 2023

323 West Hall, 1085 South University Ave, Ann Arbor, MI 48109

✉ manncz@umich.edu <http://www-personal.umich.edu/~manncz/>  [manncz](#)

Education

- 2024 Ph.D., Statistics. University of Michigan, Ann Arbor, MI, USA
(Expected) Supervised by Johann Gagnon-Bartsch
- 2021 M.A., Statistics. University of Michigan, Ann Arbor, MI, USA
- 2017 B.A., Mathematics with a Statistics Track. Carleton College, Northfield, MN, USA
summa cum laude
Honors in math education Integrated Comprehensive Exercises, “[Bar Modeling: Adventures in Algebra](#),” with Margaret Crenshaw, Alli Domingues, and Zoe Peterson.
-

Teaching

Instructional Experience

Graduate Student Instructor, UNIVERSITY OF MICHIGAN

1. *STATS 604: Statistical Practice* Fall 2022
Instructor: Johann Gagnon-Bartsch
 - Graduate-level course required for all Ph.D. students to learn the process of statistical investigation, including creating reproducible workflows.
 - Developed and taught weekly discussion section, created homework and exam solutions, held office hours, graded homework and exams, and evaluated final project.
 - Awarded “Outstanding GSI” by the statistics department for the 2022-2023 academic year.
2. *STATS 480: Survey Sampling* Winter 2020
Instructor: Walter Mebane
 - Upper-level undergraduate introductory course to survey sampling including survey design and estimation based on different designs.
 - Designed and taught weekly lab, held office hours, and graded homework and exams.
3. *STATS 250: Introduction to Statistics and Data Analysis* Fall 2019
Instructor: Brenda Gunderson
 - Large cross-disciplinary introductory statistics course.
 - Taught one weekly lab section, held office hours, and graded homework and exams.

Additional Teaching Activities

UNIVERSITY OF MICHIGAN

1. Research Mentor and Instructor, Big Data Summer Institute Summer 2022
 - Interdisciplinary, 6-week Summer Institute in Biostatistics (SIBs) program to introduce undergraduate students to research in public health using big data.
 - Mentored students to complete research projects using publicly available data to investigate health claims made by major news sources, including changes in flu vaccination rates and STI prevalence during the COVID pandemic.
2. Graduate Student Mentor, all statistics courses (excluding STATS 250) AY 2021-2
 - Supported Graduate Student Instructors to improve pedagogy.
 - Designed and led teaching orientation, conducted classroom observations of lab instruction, and shared bi-weekly teaching resource newsletter.
3. Instructor, Statistics Summer Study Group Spring/Summer 2021 - 2022
 - Facilitated weekly problem-solving sessions to review linear algebra and calculus concepts in preparation for first year graduate statistics courses.
 - Awarded and supported by Student Ally for Diversity Grant from Rackham Graduate School.
4. Departmental Tutor, STATS 510, 511, 500, & 503 AY 2021-2
 - Provided studying and homework support for graduate-level probability, statistical inference, and linear modeling courses.
 - Part of departmental initiative to offer tutoring for RMF and RMA eligible graduate students in continuation of the Statistics Summer Study Group.

Mentoring

Undergraduate Students

1. Wei Xu Jan 2022 - Apr 2023
 - Undergraduate Research Program in Statistics (URPS) project with Siyu Yang evaluating the statistical characteristics of estimators for paired cluster-randomized trials through simulation.
 - Independent project proving theoretical properties of estimators incorporating negative controls.
2. Jiaying Wang May 2022 - Apr 2023
 - Project fitting and evaluating machine learning models on large educational data culminating in a report and github repository.
 - Part of research group supported by Institute of Education Sciences grant R305D2100, co-PIs Johann Gagnon-Bartsch and Adam Sales.
3. Siyu Yang Jan 2022 - Aug 2022
 - URPS project with Wei Xu evaluating the statistical characteristics of estimators for paired cluster-randomized trials through simulation.
4. Zhanning Zhu Jan 2021 - May 2021

- URPS project with Allister Ho evaluating power and level of hypothesis tests for small experiments through simulation studies.

5. Allister Ho

Jan 2021 - May 2021

- URPS project with Zhanning Zhu evaluating power and level of hypothesis tests for small experiments through simulation studies.

Educational Development

1. Graduate Teacher Certificate, University of Michigan expected May 2024
 - Documents professional development as a college-level instructor.
 - Developing a workshop curriculum on non-traditional grading with Dr. Vilma Mesa.
2. Causal Inference in Education Research Seminar, University of Michigan Fall 2021 - present
 - Weekly interdisciplinary seminar on current causal education research.
3. Statistics Education Reading Group, University of Washington Seattle (remote) Spring 2021
 - Joined graduate students in Statistics and Biostatistics at UW to discuss *Small Teaching Everyday Lessons from the Science of Learning* by James M. Lang.

Grants & Teaching Awards

1. Outstanding GSI Award. Department of Statistics, University of Michigan, 2023.
2. Nominated by the Department of Statistics for the Rackham Outstanding Graduate Student Instructor Award. University of Michigan, 2023.
3. Student Ally for Diversity Grant. Rackham Graduate School, University of Michigan, Spring/Summer 2021.
 - Collaborated with co-grantee, Dr. Zoe Rehnberg, and ad-hoc department committee on math preparation.
 - Developed a curriculum for incoming PhD and Bridge Master's students to the statistics department to improve readiness for first year classes for those with diverse mathematical backgrounds.

Research

Publications

Peer-Reviewed

1. **Mann, C. Z.**, Abshire, C., Yost, M., Kaatz, S., Swaminathan, L., Flanders, S. A., Prescott, H. C., and Gagnon-Bartsch, J. A. (2021) "Derivation and external validation of a simple risk score to predict in-hospital mortality in patients hospitalized for COVID-19." *Medicine*, 100(40), e27422. doi:10.1097/MD.00000000000027422.

2. **Mann, C. Z.**, Hansen, B. B., Gaydosh, L., and Lycurgus, T. (2021). “Protocol — Evaluating the effect of ACA Medicaid expansion on mortality during the COVID-19 pandemic using county level matching.” *Observational Studies*, 7(2), S1-S31. doi:10.1353/obs.2021.0034.
3. Lycurgus, T., Hansen, B. B., and **Mann, C. Z.** (2021). “Protocol: Evaluating the effect of ACA Medicaid expansion on 2015-2018 mortality through matching and weighting.” *Observational Studies*, 7(2), 1-13. doi:10.1353/obs.2021.0033.

Submitted Manuscripts

1. **Mann, C. Z.**, Sales, A., and Gagnon-Bartsch, J. A. “Combining observational and experimental data for causal inference considering data privacy.” *Under Review. Submitted to the Journal of Causal Inference* 12/15/22. <https://arxiv.org/abs/2308.02974>.
2. **Mann, C. Z.**, Hansen, B. B., and Gaydosh, L. “Evaluating the effect of ACA Medicaid expansion on mortality with design-based inference and censored outcomes.” *Revise and Resubmit. Submitted to the Annals of Applied Statistics* 03/23/23.

In Progress

1. **Mann, C. Z.**, Sales, A., and Gagnon-Bartsch, J. A. “Design-based inference for paired cluster-randomization.”

Presentations and Posters

Presentations

- | | |
|------|---|
| 2023 | Michigan Student Symposium for Interdisciplinary Statistical Sciences. Ann Arbor, MI, USA. |
| 2022 | Causal Inference & EDM Workshop, International Conference on Artificial Intelligence in Education. Virtual. |
| 2021 | Michigan Student Symposium for Interdisciplinary Statistical Sciences. Ann Arbor, MI, USA. |

Posters

- | | |
|------|--|
| 2023 | Joint Statistical Meetings. Toronto, ON, CA. |
| 2022 | Women in Statistics and Data Science Conference. St. Louis, MO, USA. |
| 2021 | Michigan Student Symposium for Interdisciplinary Statistical Sciences. Ann Arbor, MI, USA. |
| 2015 | Joint Statistical Meetings. Seattle, WA, USA. |

Research Awards

1. Nominated by the Department of Statistics for the Susan Lipschutz, Margaret Ayers Host, and Anna Olcott Smith Awards for Rackham Graduate Students. University of Michigan, 2022 & 2023.

2. Excellent Poster. Michigan Student Symposium for Interdisciplinary Statistical Sciences, 2021.
3. Outstanding First Year Student Award. Department of Statistics, University of Michigan, 2020.

Service

Departmental Service

1. Co-founder and Steering Committee Member, Graduate Student Justice, Equity, Diversity, and Inclusion Working Group (GS-JEDI). Department of Statistics, University of Michigan. Summer 2020 - present.
2. Member of the PhD Student Council. Department of Statistics, University of Michigan. Fall 2019 - present.
3. PhD Student Mentor. Department of Statistics, University of Michigan.
 - Sahana Ryan Fall 2022 - present
 - Angelica Estrada Fall 2021 - Fall 2022
4. Student Representative, Faculty Diversity, Equity, and Inclusion Committee. Department of Statistics, University of Michigan. Fall 2020 - Winter 2022.
5. Chair of the PhD Student Council Recruiting Committee. Department of Statistics, University of Michigan. Fall 2020 - Winter 2022.

Professional Service

Journals Refereed

2022	<i>Journal of Racial and Ethnic Health Disparities</i>
2022	<i>Journal of Data Science</i>
2020	<i>The American Statistician</i>

Professional Memberships

1. American Statistical Association, 2016 - present.
2. Justice, Equity, Diversity, and Inclusion (JEDI) Outreach Group of the ASA, 2021-2022.

Service Awards

1. Ph.D. Student Service Award. Department of Statistics, University of Michigan, 2021.

Other Experience

Consulting & Related Experience

1. Analysis Group, Inc., Boston, MA, USA 2016 - 2019
 - Senior Analyst, Jan 2019 - Jul 2019; Analyst, Aug 2017 - Dec 2018; Intern Analyst, Jun-Aug 2016
 - Contributed to the creation and support of data-driven arguments in anti-trust and consumer deception cases.
 - Designed consumer surveys and conducted appropriate statistical tests to evaluate claims of false advertising.
 - Created and managed efficient data pipelines and reproducible analyses to the standards of court evidence in Stata, R and SAS.
 - Co-designed and taught a Stata training course for new Analysts.
2. Statistical Consulting (MATH 280), Carleton College, Northfield, MN, USA Mar - Jun 2016
 - Collaborated with two other students to report the impact of a greenway development on surrounding property values in Minneapolis.

Computing

R/R-Studio, Stata, Jupyter, R Shiny
Python, Docker (intermediate)
SQL, SAS, ArcGIS, C++, Spark (some experience)