Jacob M. Chen

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Education

- **Johns Hopkins University**, Baltimore, MD — July 2024 – Present
  M.S. and Ph.D. in Computer Science; Advised by Dr. Ilya Shpitser.
- **Williams College**, Williamstown, MA — Sept. 2019 – Dec. 2023
  B.A. Major in Computer Science & Concentration in French and Francophone Studies
  - Thesis: *Causal Inference with Outcome-Dependent Missingness And Self-Censoring*; Advised by Dr. Rohit Bhattacharya

Publications

1. **Jacob M. Chen**, Rohit Bhattacharya, Katherine A. Keith, "Proximal Causal Inference with Text Data," in Advances in Neural Information Processing Systems 37 (NeurIPS 2024).
   - Link to manuscript: `https://arxiv.org/abs/2401.06687`
   - Accompanying code: `https://github.com/jacobmchen/proximal_w_text`
2. Julie Joss, **Jacob M. Chen**, Nicolas Prost, Gaël Varoquaux, Erwan Scornet, "On the consistency of supervised learning with missing values," in Statistical Papers, 2024.
   - Link to manuscript: `https://link.springer.com/article/10.1007/s00362-024-01550-4`
   - Accompanying code: `https://github.com/jacobmchen/supervised_missing`
3. **Jacob M. Chen**, Daniel Malinsky, Rohit Bhattacharya, "Causal Inference with Outcome-Dependent Missingness and Self-Censoring," in Proceedings of the 39th Conference on Uncertainty in Artificial Intelligence (UAI), 2023
   - Acceptance rate 243/778=31.2%. Chosen for a poster spotlight presentation (32/243=13.2%).
   - Link to manuscript: `https://proceedings.mlr.press/v216/chen23f.html`
   - Accompanying code: `https://github.com/jacobmchen/mnar-recoverability`

Research Interests

- Causal Inference, Missing Data, Graphical Models, Machine Learning, Applications in Healthcare and the Social Sciences, Computer Science Education

Teaching Experience

Residential Teaching Fellow, Phillips Exeter Academy, Exeter, NH — June – Aug. 2022
- Utilized Harkness pedagogy to instruct high school students in three courses – Introduction to Computer Science, Mobile App Development, and Game Programming – at a prestigious summer school program. Additionally, served as a dorm faculty for high school boys boarding in dormitories during the summer program.

Teaching Assistant in Computer Science Department, Williams College — Feb. 2021 – May 2023
- Data Structures & Advanced Programming (Spring '21), Algorithm Design & Analysis (Spring '22), Introduction to Computer Science (Fall '21, Fall '22, & Spring '23)

Lanesborough Elementary School Teaching Fellow, Lanesborough, MA — Jan. 2022 – May 2023
- Assisted in a 4th grade classroom with math and science courses and a kindergarten classroom with an English as a second language student. Gave a presentation introducing Taiwan and its culture to elementary school students.

Teacher for AP Computer Science, Nuts Institute, Hsinchu, Taiwan — July 2020 – Jan. 2021
- Taught fundamentals of Java to high school students with no previous programming experience in preparation for the AP Computer Science A exam. Prepared my own class materials and lesson plans.

Honors & Awards

- *Magna Cum Laude*, Williams College, 2024
- *Phi Beta Kappa*, Williams College, 2024
- *Finalist for the CRA Undergraduate Research Award*, Computing Research Association (CRA), 2024
- *Sam Goldberg Prize*, Williams College, 2023; Awarded for the best thesis presentation in computer science.
- *Sigma Xi Society*, Williams College, 2023; Inducted into the Sigma Xi Society for excellence in research.
- *Dean's List*, Williams College, 2019-2023

Presentations & Talks

1. **Jacob M. Chen**, Rohit Bhattacharya, and Katherine A. Keith. "Proximal Causal Inference with Text Data." Poster presentation at Advances in Neural Information Processing Systems 37 (NeurIPS 2024), Vancouver, Canada, December 2024.
2. **Jacob M. Chen**, Rohit Bhattacharya, and Katherine A. Keith. "Proximal Causal Inference with Text Data." Poster presentation at the American Causal Inference Conference (ACIC), Seattle, WA, May 2024.
3. **Jacob M. Chen**, Daniel Malinsky, and Rohit Bhattacharya. "Causal Inference with Outcome Dependent Missingness and Self-Censoring." Poster spotlight talk at Uncertainty in Artificial Intelligence (UAI), Pittsburgh, PA, July 31 - August 4, 2023.
4. **Jacob M. Chen**. "Causal Inference with Outcome Depending Missingness and Self-Censoring." Thesis presentation and defense before the computer science department at Williams College, Williamstown, MA, May 2023.
5. **Jacob M. Chen**, Daniel Malinsky, and Rohit Bhattacharya. "Causal Inference with Outcome Dependent Missingness and Self-Censoring." Poster presentation at the American Causal Inference Conference (ACIC), Austin, TX, May 2023.
6. **Jacob M. Chen** and Rohit Bhattacharya. "On Covariate Adjustment in Missing Not at Random Models." Poster presentation at the American Causal Inference Conference (ACIC), Berkeley, CA, May 2022.

Professional Activities

– *Reviewer*, Conference on Uncertainty in Artificial Intelligence (UAI), 2024.

Work Experience

Software Engineer, Seknova Biotechnology Co., Taiwan June – Aug. 2019

– Designed and developed independently Windows graphical user interface tools in Java and developed an Android App for an external blood glucose monitoring device.

Community Service

Crisis Text Line, Remote Since Feb. 2021

– Crisis Text Line provides free, 24/7 support for people in crisis via a medium people already use and trust: text.

Skills & Language

– English – Fluent, Mandarin – Fluent, French – Intermediate (A2/B1), Japanese – Basic
– Python Machine Learning & Causal Inference
– Computer: Android Java App Development, Python, Java, C, R