

# Maggie Wang

## EDUCATION

- 2021 - **Stanford University**, Stanford, CA  
PhD Biomedical Data Science
- 2017 - 2021 **Johns Hopkins University**, Baltimore, MD  
BS Biomedical Engineering, BS Computer Science (double major)

## RESEARCH EXPERIENCE

- 2021 - **Stanford University**, Stanford, CA  
PhD student, Advisor: Dr. Michael Baiocchi

### *Experimental Design for Behavioral Interventions*

- Developed a framework that encourages better experimental designs through the use of restricted randomization with diverse design criteria. Implemented simulations in Python to show that the new design framework can improve bias and precision in treatment effect estimates in group formation experiments (motivated by real-world stereotype threat interventions) and experiments with interference (motivated by a real-world sexual assault prevention intervention).
- Developed methods for experimental evaluation of decision support tools when users adapt their decision-making behavior over time.

### *Interpretable Machine Learning*

- Built an interactive Streamlit app for users to edit illogical concepts out of a concept bottleneck model. Designed and led a user study (N=30 machine learning researchers and practitioners) demonstrating that human-guided model editing improves model performance on out-of-distribution data.

### *Applied Studies of Health Interventions and Health Outcomes*

- Wrote SQL queries to extract over 150,000 patients with chronic kidney disease from a nationwide administrative health claims database. Ran descriptive analyses in Python to estimate specialist care rates across kidney failure risk strata, revealing that many high-risk patients do not receive timely care.
- Ran logistic regression and post hoc comparison analyses in R to estimate the association between depression and co-use of tobacco and marijuana using survey data from over 6,000 adolescents and adults.
- Ran a covariate-adjusted regression analysis to estimate the treatment effect of a therapeutic AI chatbot on substance abuse using data from a randomized trial of over 250 individuals.

- 2025 **Center for Democracy & Technology (CDT), AI Governance Lab**, Washington, D.C.  
Summer fellow

- Conducted a literature review of risk management practices and guidelines in the AI industry and other safety-critical industries, and wrote a blog post on the CDT website highlighting the need for AI developer companies to be make their risk appetites more legible and transparent.
- Prepared an internal technical primer on Model Context Protocol (MCP) and briefed the rest of the AI Governance Lab on the privacy and security risks of MCP.

2018 - 2021

## **Johns Hopkins University, Baltimore, MD**

Undergraduate researcher, Advisor: Dr. Michael Miller

- Developed and implemented surface registration algorithms to construct flattened hippocampus thickness maps, then used these maps to visualize hippocampal thinning in patients with Alzheimer's disease.
- Applied regression methods to model the relationship between brain atrophy and genetic indicators of Huntington's disease.

## **PUBLICATIONS & PRESENTATIONS**

### **JOURNAL & CONFERENCE PAPERS**

- [J1] **Maggie Wang**, René Kizilcec, and Michael Baiocchi. "Inspection-guided Randomization: A Flexible and Transparent Restricted Randomization Framework for Better Experimental Design". *Journal of Educational and Behavioral Statistics* (2025). DOI: [10.3102/10769986251342292](https://doi.org/10.3102/10769986251342292).
- [J2] Shivani Mathur Gaiha, **Maggie Wang**, Mike Baiocchi, and Bonnie Halpern-Felsher. "Depression screening outcomes among adolescents, young adults, and adults reporting past 30-day tobacco and cannabis use". *Addictive Behaviors* (2024). DOI: [10.1016/j.addbeh.2024.108076](https://doi.org/10.1016/j.addbeh.2024.108076).
- [J3] Chin-Fu Liu, Laurent Younes, Xiao Tong, Jared T. Hinkle, **Maggie Wang**, et al. "Longitudinal Imaging Highlights Preferential Basal Ganglia Circuit Atrophy in Huntington's Disease". *Brain Communications* (2023). DOI: [10.1093/braincomms/fcad214](https://doi.org/10.1093/braincomms/fcad214).
- [J4] Mert Yuksekgonul, **Maggie Wang**, and James Zou. "Post-hoc Concept Bottleneck Models". *ICLR* (2023). arXiv: [2205.15480](https://arxiv.org/abs/2205.15480).
- [J5] **Maggie Wang\***, Samson Peter\*, Chi Chu, Delphine Tuot, and Jonathan Chen. "Underutilization of Nephrology Referral at High Kidney Failure Risk Levels". *JAMA Network Open* (2022). DOI: [10.1001/jamanetworkopen.2022.25797](https://doi.org/10.1001/jamanetworkopen.2022.25797).

### **POSTERS & INVITED TALKS**

- [P1] **Maggie Wang** and Michael Baiocchi. "Designing Experiments to Evaluate Algorithm-Assisted Decision-Making in the Presence of Behavior Adaptation". *Poster, American Causal Inference Conference* (2025).
- [P2] **Maggie Wang**, René Kizilcec, and Michael Baiocchi. "Inspection-guided Randomization: A Flexible and Transparent Restricted Randomization Framework for Better Experimental Design". *Oral, Joint Statistical Meetings, session on "Treatment Effect Estimation and Experimental Designs"* (2025).
- [P3] **Maggie Wang**, René Kizilcec, and Michael Baiocchi. "Inspection-guided Randomization: A Flexible and Transparent Restricted Randomization Framework for Better Experimental Design". *Poster, American Causal Inference Conference* (2024).
- [P4] **Maggie Wang** and Michael Baiocchi. "Designing Randomized Experiments for Behavioral Interventions Under Interference and Context-Dependence". *Oral, Stanford Causal Science Conference* (2023).

## **AWARDS & HONORS**

2025

### **Stanford HAI Tech Ethics & Policy Fellowship**

Awarded to 10-15 Stanford graduate students annually. Selected students are placed in tech policy fellowship positions across D.C., from Congress to the Executive Branch to leading think tanks.

- 2023 **National Science Foundation Graduate Research Fellowship**  
5-year fellowship with three years of financial support awarded to roughly 2,500 graduate students in STEM
- 2021 **Stanford Graduate Fellowship, Smith Fellow**  
3-year support awarded to roughly 100 outstanding Stanford graduate students in science and engineering
- 2020 **Tau Beta Pi Engineering Honor Society**  
Membership granted to top eighth of juniors at Johns Hopkins majoring in an engineering discipline
- 2019 **Alpha Eta Mu Beta Biomedical Engineering Honor Society**  
Membership granted to top fifth of juniors at Johns Hopkins majoring in biomedical engineering
- 2019 **Provost's Undergraduate Research Award**  
\$3000 funding awarded to 40 Johns Hopkins undergraduates to conduct independent research
- 2019 **Vredenburg Travel Scholarship**  
\$8000 funding awarded to 10 Johns Hopkins undergraduates to pursue research abroad
- 2017 **Hodson Trust Scholarship**  
4-year merit-based scholarship awarded to 20 Johns Hopkins undergraduates covering half-tuition

## TEACHING EXPERIENCE

- Fall 2023 **Graduate Teaching Assistant**, BIOMEDIN 215: Data Science for Medicine, Stanford University
- Fall 2022 **Graduate Teaching Assistant**, BIOMEDIN 215: Data Science for Medicine, Stanford University
- Fall 2020 **Undergraduate Teaching Assistant**, EN.601.433: Introduction to Algorithms, Johns Hopkins University
- Fall 2019 **Undergraduate Teaching Assistant**, EN.580.243: Linear Signals and Systems, Johns Hopkins University

## LEADERSHIP & MENTORSHIP EXPERIENCE

- 2021 - **Mentor & Organizer**, Stanford Biomedical Data Science Peer-to-Peer Application Mentoring Program  
*Stanford University*  
Provided feedback on essay drafts for prospective MS and PhD applicants who identified as underrepresented minorities. Organized mentor recruitment and mentor-mentee matchings (2022-2023).
- 2023 - 2025 **Mentor**, Stanford Biosciences NSF Graduate Research Fellowship Peer-to-Peer Mentoring Program  
*Stanford University*  
Mentored an applicant for the 2023-2024 and 2024-2025 NSF GRFP cycles, providing multiple rounds of feedback on their personal statement and research statement.
- 2022 **Mentor**, Community College Outreach Program Bootcamp  
*Stanford University*  
Met weekly in a virtual small group format with community college students seeking to transfer into 4-year programs. Provided advice on essays, internships, and resumes.
- 2020 - 2021 **Mentor**, Women Mentoring Whiting  
*Johns Hopkins University*  
Met bi-weekly with mentee to offer guidance on navigating college as a woman in engineering.