Andy A. Shen

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EDUCATION

University of California, Berkeley, Berkeley, CA — August 2021 - May 2026
PhD in Statistics
Committee: Haiyan Huang (co-chair), Sam Pimentel (co-chair), Avi Feller, Peng Ding

University of California, Los Angeles, Los Angeles, CA — September 2017 - June 2021
Bachelor of Science in Statistics, Magna Cum Laude

WORK EXPERIENCE

Genentech
Data Science Intern — May 2025 – Present
- Long-term (12 month) internship focused on developing methodology to handle treatment crossover in oncology trials.

Denali Therapeutics
Biostatistics Intern — June 2023 – August 2023
- Used machine learning models to identify biomarkers as surrogate endpoints in clinical trials.
- Utilized covariate adjustment techniques to perform sample size estimation for Phase I clinical trial enrollment.
- Developed end-to-end machine learning and estimation pipeline (R package) for clinicians to utilize our method for sample size estimation.

Los Alamos National Laboratory
Statistics Intern — June 2016 - July 2021
- Utilized Bayesian Multivariate Adaptive Regression Splines (BMARS) and Reversible-Jump MCMC to develop robust model with t-distributed likelihood.
- Developed R package (TBASS) that uses Robust BMARS to fit nonlinear data with outliers.
- Analyzed data on water use in cooling towers and created statistical models to determine relationships between season and availability of water.
- Developed and implemented a Microsoft Outlook add-on that warns users when an email is being sent to an external address.

Lead Resident Assistant
UCLA Residential Life — March 2019 – June 2021
- Collaborated with Resident Directors, Assistant Directors, and other professional staff to create methods to improve RA duty protocols, resulting in organization-wide protocol improvements affecting over 300 staff members and 13,000 residents.
- Counseled and advised residents with personal and academic-related matters, including roommate conflicts, academic difficulties, and crisis intervention, resulting in the highest total response rate for residential experience survey.
- Implemented programs and events to assist residents in academic success and personal/career development. Consistently hosted events with 100–150% higher attendance rates than typical event averages.
- Engaged in active, on-call duty coverage of residential communities, enforcing housing conduct policies, documenting policy violations, writing incident reports, and emergency response.

RESEARCH

Research Interests: Causal Inference (broadly), Experimental Design, Survival Analysis, Clinical Trials

Selected Publications:

- **Shen, A.,** Visoki, E, Barzilay, R, and Pimentel, SD. (2025). A Calibrated Sensitivity Analysis for Weighted Causal Decompositions. Statistics in Medicine, 44(5): e70010.
- **Shen, A.*,** McLoughlin, A.*, Vernon, Z., Lin, J., Carano, R., Bickel, P., Song, Z., and Huang, H. (2025). Assessing the Role of Volumetric Brain Information in Multiple Sclerosis Progression. Computational and Structural Biotechnology Journal, 27(C), 2014–2033.
- Rumsey, K., Francom, D., and **Shen, A.** (2023). Generalized Bayesian MARS: Tools for emulating stochastic computer models. SIAM/ASA Journal on Uncertainty Quantification, 12(2), 646–666.
- Lee, S., **Shen, A.,** Park, J., Harrigan, R., Hoff, N., Rimoin, A., & Paik Schoenberg, F. (2021). Comparison of prospective Hawkes and recursive point process models for Ebola in DRC. Journal of Forecasting, 41(1): 201–210.

Presentations:

A Calibrated Sensitivity Analysis for Weighted Causal Decompositions

- Joint Statistical Meetings, August 2025 (won ASA student paper award)
- International Conference on Health Policy Statistics, January 2025 (won ASA student paper award)
- Michigan State University College of Education, October 2024
- Joint Statistical Meetings, August 2024
- American Causal Inference Conference, June 2024

TEACHING

UC Berkeley Department of Statistics *Graduate Student Instructor*

Stat 230A: Linear Models with Sam Pimentel	Spring 2025
Stat 135: Concepts of Statistics with Eaman Jahani	Fall 2022

SKILLS/LANGUAGES

Computer skills: R, LaTeX, Python, Microsoft Office
Language skills: Intermediate written and conversational Mandarin Chinese

AWARDS/HONORS

American Statistical Association: Student Paper Award Winner	January, August 2025
National Science Foundation Graduate Research Fellowship	September 2022 - June 2026
UC Berkeley Outstanding Graduate Student Instructor Award	Fall 2022