

Andy A. Shen

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EDUCATION

University of California, Berkeley, Berkeley, CA

August 2021 - May 2026 (*flexible*)

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

Biostatistics / 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 covariate adjustment methods 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 water availability.

Lead Resident Assistant

UCLA Residential Life

March 2019 - June 2021

- 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:

Forest Kernel Balancing Weights: Model-Guided Features for Causal Inference

- Berkeley Statistics Annual Research Symposium, September 2025

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 (x2)

January, August 2025

National Science Foundation: Graduate Research Fellowship

September 2022 - June 2026

UC Berkeley: Outstanding Graduate Student Instructor Award

Fall 2022

References provided upon request.