

Clara Wong-Fannjiang

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Education

UC Berkeley, Ph.D. in Electrical Engineering & Computer Sciences Aug 2018 – Aug 2023
Advised by Jennifer Listgarten and Michael I. Jordan.

Stanford University, B.S. in Computer Sciences with Honors & Distinction Sep 2012 – June 2016

Professional Experience

Senior Machine Learning Scientist, Genentech (South San Francisco, CA) Sep 2023 – present
Research on uncertainty quantification for machine learning-guided decisions in drug discovery and clinical trials.

Research Intern, Salesforce Research (Palo Alto, CA) May 2022 – Oct 2022
Developed machine learning methods using protein language models for designing thermostable enzymes.

Research Assistant, Monterey Bay Aquarium Research Institute (Moss Landing, CA) Feb 2017 – Aug 2017
Led fieldwork deploying biotelemetry on scyphozoans in Monterey Bay.

Google Brain Resident, Google (Mountain View, CA) June 2016 – June 2017
Research on chaotic dynamics in recurrent neural networks.

Perspectives & Primers

2. “Is novelty predictable?” **Clara Fannjiang** and Jennifer Listgarten. *Cold Spring Harbor Perspectives in Biology*, 16, a041469. 2024.
1. “Generative models for protein structures and sequences.” Chloe Hsu, **Clara Fannjiang**, and Jennifer Listgarten. *Nature Biotechnology* 42, 196–199. 2024.

Journal Publications

7. Danqing Zhu*, David H. Brookes*, Akosua Busia*, Ana Carneiro, **Clara Fannjiang**, Galina Popova, David Shin, Tomasz J. Nowakowski, Jennifer Listgarten, and David. V. Schaffer. “Optimal trade-off control in machine learning-based library design, with application to adeno-associated virus (AAV) for gene therapy.” *Science Advances*, 10, eadj3786. 2024. DOI: 10.1126/sciadv.adj3786.
6. (α - β) Anastasios N. Angelopoulos, Stephen Bates, **Clara Fannjiang**, Michael I. Jordan, and Tijana Zrnic. “Prediction-powered inference.” *Science*, 382, 669-674. 2023. DOI: 10.1126/science.adi6000
5. **Clara Fannjiang**, Stephen Bates, Anastasios Angelopoulos, Jennifer Listgarten, and Michael I. Jordan. “Conformal prediction under feedback covariate shift for biomolecular design.” *Proceedings of the National Academy of Sciences*, 119(43), e2204569119. 2022. DOI: 10.1073/pnas.2204569119.
4. Chloe Hsu, Hunter Nisonoff, **Clara Fannjiang**, Jennifer Listgarten. “Learning protein fitness models from evolutionary and assay-labelled data.” *Nature Biotechnology*, 40, 1114–1122. 2022. DOI: 10.1038/s41587-021-01146-5.
3. I. Masmitja, J. Navarro, S. Gomariz, J. Aguzzi, B. Kieft, T. O’Reilly, K. Katija, P. J. Bouvet, **C. Fannjiang**, M. Vigo, P. Puig, A. Alcocer, G. Vallicrosa, N. Palomeras, M. Carreras, J. Del-Rio, J. B. Company. “Mobile robotic platforms for the acoustic tracking of deep-sea demersal fishery resources.” *Science Robotics*, 5(48), eabc3701. 2020. DOI: 10.1126/scirobotics.abc3701.
2. **Clara Fannjiang**, T. Aran Mooney, Seth Cones, David Mann, K. Alex Shorter, and Kakani Katija. “Augmenting biologging with supervised machine learning to study in situ behavior of the medusa *Chrysaora fuscescens*.” *Journal of Experimental Biology*, 222, jeb207654. 2019. DOI: 10.1242/jeb.207654.
1. **Clara Fannjiang**. “Optimal arrays for compressed sensing in snapshot-mode radio interferometry.” *Astronomy & Astrophysics*, 559, A73. 2013. DOI: 10.1051/0004-6361/201321079.

Refereed Conference Proceedings

4. **Clara Fannjiang** and Ji Won Park. “Reliable algorithm selection for machine learning-guided design.” In *Proceedings of the 42nd International Conference on Machine Learning (ICML)*, 2025.
3. Ghassen Jerfel*, Serena Wang*, **Clara Fannjiang**, Katherine Heller, Yian Ma, Michael Jordan. “Variational refinement for importance sampling using the forward Kullback-Leibler divergence.” In *Proceedings of the 37th Conference on Uncertainty in Artificial Intelligence (UAI)*, 2021.
2. **Clara Fannjiang** and Jennifer Listgarten. “Autofocused oracles for model-based design.” In *Advances in Neural Information Processing Systems (NeurIPS)*, 2020.
1. David H. Brookes, Akosua Busia, **Clara Fannjiang**, Kevin Murphy, and Jennifer Listgarten. “A view of estimation of distribution algorithms through the lens of expectation-maximization.” In *Proceedings of the Genetic and Evolutionary Computation Conference (GECCO)*, 2020.

Invited Talks

12. Berkeley-Genentech Workshop on Uncertainty Quantification for Decision-Making (UQ4DM). UC Berkeley, October 2025.
11. Simons Institute Workshop on AI \equiv Science: Strengthening the Bond Between the Sciences and AI. Simons Institute for the Theory of Computing, June 2024.
10. Machine Learning for Health Care and Life Sciences Workshop. ETH AI Center, November 2023.
9. Alaa Lab (UCSF/UC Berkeley), September 2023.
8. Calico Life Sciences, May 2023.
7. Microbiology Society Annual Conference. Birmingham, UK, April 2023.
6. Physics of Living Systems Seminar Series. EPFL, November 2022.
5. James Fraser Lab (UCSF), October 2022.
4. Machine Learning for Protein Engineering Seminar Series. October 2022
3. AIDD Summer School on Advanced Machine Learning for Drug Discovery. IDSIA, Lugano, Switzerland, May 2022.
2. Deborah Marks Lab (Harvard University), August 2020.
1. Monterey Bay Aquarium Research Institute Seminar. MBARI, 2018.

Teaching Experience

STAT 102: Data, Inference, and Decisions, University of California, Berkeley. Graduate Student Instructor & Guest Lecturer. Spring 2020, Fall 2020.

EE 364A: Convex Optimization, Stanford University. Teaching Assistant. Winter 2016.

EE 103: Introduction to Matrix Methods, Stanford University. Teaching Assistant. Fall 2015.

Awards

NSF Graduate Research Fellowship, 2019.

SICB Marlene Zuk Best Student Paper Finalist, 2019.

UC Berkeley Allen D. Wilson Fellowship (declined), 2017.

UC Berkeley EECS Excellence Award (declined), 2017.

Tau Beta Pi, 2016.

Stanford University President’s Award for Excellence in the Freshman Year, 2013.