clara wong-fannjiang

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education

University of California, Berkeley August 2018 - present
Ph.D., Electrical Engineering & Computer Sciences
Advised by Michael I. Jordan and Jennifer Listgarten

Stanford University September 2012 - June 2016
B.S., Computer Science with Honors and Distinction

publications

Asterisks denote equal contribution.

preprints

1. Chloe Hsu, Hunter Nisonoff, **Clara Fannjiang**, Jennifer Listgarten. A systematic assessment of methods for combining evolutionary and assay-labelled data for protein fitness prediction.
2. Akosua Busia, George E. Dahl, **Clara Fannjiang**, David H. Alexander, Elizabeth Dorfman, Ryan Poplin, Cory Y. McLean, Pi-Chuan Chang, and Mark DePristo. A deep learning approach to pattern recognition for short DNA. DOI: 10.1101/353474. (bioRxiv)

refereed conferences

1. Ghassen Jerfel*, Serena Wang*, **Clara Fannjiang**, Katherine Heller, Yian Ma, Michael Jordan. Variational refinement for importance sampling using the forward Kullback-Leibler divergence. Advances in Approximate Bayesian Inference (AABI) 2021.
2. **Clara Fannjiang** and Jennifer Listgarten. Autofocused oracles for model-based design. Neural Information Processing Systems (NeurIPS) 2020. (arXiv | proceedings | code)
3. 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. Genetic and Evolutionary Computation Conference (GECCO) 2020. (arXiv (extended version) | proceedings)
4. Katherine Lee, Orhan Firat, Ashish Agarwal, **Clara Fannjiang**, and David Sussillo. Hallucinations in neural machine translation. Neural Information Processing Systems (NeurIPS) 2018 Workshop on Interpretability and Robustness for Audio, Speech, and Language. (PDF)

journals

1. 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. 2020. Mobile robotic platforms for the acoustic tracking of deep-sea demersal fishery resources. *Science Robotics*, Vol. 5, Issue 48, eabc3701. (PDF | publication link)
2. **Clara Fannjiang**, T. Aran Mooney, Seth Cones, David Mann, K. Alex Shorter, and Kakani Katija. 2019. Augmenting biologging with supervised machine learning to study *in situ* behavior of the medusa *Chrysaora fuscescens*. *Journal of Experimental Biology*, 222, jeb207654. DOI: 10.1242/jeb.207654. (PDF | publication link | code)
3. **Clara Fannjiang**. 2013. Optimal arrays for compressed sensing in snapshot-mode radio interferometry. *Astronomy & Astrophysics*, 559, A73. DOI: 10.1051/0004-6361/201321079. (PDF | publication link)

other conferences

1. Ivan Masmitja, Spartacus Gomariz, Joaquin Del Rio, Brian Kieft, Tom O'Reilly, Jacobo Aguzzi, Pierre-Jean Bouvet, **Clara Fannjiang**, and Kakani Katija. Area-only method for underwater object tracking using autonomous vehicles. IEEE OCEANS 2019. (PDF | proceedings)
2. **Clara Fannjiang** and Kakani Katija. Using supervised machine learning to understand fine-scale *in situ* behavior of *Chrysaora fuscescens*. Society for Integrative and Comparative Biology (SICB) 2019 Annual Meeting. Oral, Marlene Zuk Best Student Paper Finalist.
3. **Clara Fannjiang**, Marius Cătălin Iordan, Diane M. Beck, and Fei-Fei Li. Pushing the boundaries of fine-grained object classification with fMRI decoding in human occipito-temporal cortex. Vision Sciences Society (VSS) 2015 Annual Meeting. Poster. DOI: 10.1167/15.12.1167. (abstract)

professional experience

Monterey Bay Aquarium Research Institute, Research Assistant 2018-2019

Designed and conducted biologging field experiments on jellyfish in Monterey Bay, CA. Developed supervised learning methods to characterize novel fine-scale *in situ* behavioral and movement patterns.

Google, Google Brain Resident 2016-2017

Developed regularization schemes for suppressing chaotic dynamics in recurrent neural networks. Contributed to deep learning approach for taxonomic identification of genetic reads.

teaching

university of california, berkeley

STAT 102: Data, Inference, and Decisions (Graduate Student Instructor) Fall 2020-2021
STAT 102: Data, Inference, and Decisions (Graduate Student Instructor & Guest Lecturer) Spring 2019-2020

stanford university

EE 364A: Convex Optimization (Teaching Assistant) Winter 2015-2016
EE 103: Introduction to Matrix Methods (Teaching Assistant) Fall 2015-2016

leadership & outreach

Mentor for Berkeley AI Research Undergraduate Mentoring Program 2019 - present
Coordinator for UC Berkeley WICSE 2019 - 2020
Docent at Jasper Ridge Biological Preserve 2016 - present
Co-Instructor for Stanford Splash! M4053: For the Love of Optimization Fall 2014
Co-Instructor for Stanford Splash! B4329: The Biology of Vision and Perception Spring 2015
Organizer for Stanford SAILORS (now Stanford AI4ALL) 2014

honors & 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 National Honor Society for Engineering 2016
Stanford University President's Award for Excellence in the Freshman Year 2013