

Education

- 2019-2024 **Stanford University**, *PhD candidate (final year)*, Computer Science (AI).
 - Research on machine learning and artificial intelligence with **Prof. Chelsea Finn**
 - Relevant coursework: Deep Generative Models, Stochastic Processes
- 2014-2018 **University of California, Berkeley**, *Bachelors*, Electrical Engineering & Computer Science.
 - Overall GPA: 3.93/4.00, Major GPA: 3.95/4.00
 - Relevant Coursework: Machine Learning, Deep Reinforcement Learning, Optimization, Computational Photography, Robotics, Graphics

Research & Work Experience

- 2019- **Graduate Research Assistant**, *Stanford AI Lab*, Stanford.
 - Invented equivariant architectures for processing the weights and gradients of neural networks (<https://github.com/AllanYangZhou/nfn>)
 - Proposed techniques to learn augmentations and symmetries from data automatically
 - Developed SPARTN, which leverages Neural Radiance Fields (NeRFs) to improve robot imitation learning (<https://bland.website/spartn/>)
- 2023 **Student Researcher**, *Deepmind*, Google.
 - Principled architecture design for learned optimizers of neural networks, with Dr. James Harrison
- 2022 **ML Research Consultant**, Natera.
 - Used large language models of protein sequences to evaluate the pathogenicity of human disease-related genes
- 2021-2022 **Research Intern**, *FAIR Robotics*, Facebook/Meta.
 - Research on geometric architectures for generalization in deep reinforcement learning with Dr. Aravind Rajeswaran and Dr. Vikash Kumar
- 2018-2019 **AI Resident**, *Brain Robotics*, Google.
 - Research on machine learning for robotics with Prof. Chelsea Finn
 - Developed a meta-learning method to learn fast from imitation + trial-and-error
 - <https://sites.google.com/view/watch-try-learn-project/home>
- 2015-2018 **Research Assistant**, *InterACT Lab*, University of California, Berkeley.
 - Algorithmic human-robot interaction research with Prof. Anca Dragan
 - Developed novel cognitive models of robot motion trajectory timing
 - Investigated inverse reinforcement learning algorithms for motion style in robots
- 2016 **Software Engineering Intern**, *Google*, San Francisco.
 - Built the back-end for phone calling functionality in an enterprise web application (now released as Google Hire)
 - Developed critical functionality for the pre-release Google Hire mobile application as one of the three initial developers on the team

- 2015-2016 **Senior Programmer**, *U.C. Berkeley Residential Computing*, Berkeley.
- Built system for automatically managing copyright infringement incidents on campus residential networks
 - Maintained and upgraded existing Residential Computing systems

Publications

- 2024 Allan Zhou, Chelsea Finn, James Harrison. **Universal Neural Functionals**. In submission.
- 2023 Caroline Choi, Yoonho Lee, Annie S Chen, Allan Zhou, Aditi Raghunathan, Chelsea Finn. **AutoFT: Robust Fine-Tuning by Optimizing Hyperparameters on OOD Data**. In submission.
- 2023 Lirui Wang, Kaiqing Zhang, Allan Zhou, Max Simchowitz, Russ Tedrake. **Fleet Policy Learning via Weight Merging and An Application to Robotic Tool-Use**. In *International Conference on Learning Representations (ICLR)*, 2024.
- 2023 Adriano Cardace, Pierluigi Zama Ramirez, Francesco Ballerini, Allan Zhou, Samuele Salti, Luigi Di Stefano. **Neural Processing of Tri-Plane Hybrid Neural Fields**. In *International Conference on Learning Representations (ICLR)*, 2024.
- 2023 Katherine Tian*, Eric Mitchell*, Allan Zhou, Archit Sharma, Rafael Rafailov, Huaxiu Yao, Chelsea Finn, Christopher D. Manning. **Just Ask for Calibration: Strategies for Eliciting Calibrated Confidence Scores from Language Models Fine-Tuned with Human Feedback**. In *Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2023.
- 2023 Allan Zhou, Kaien Yang, Yiding Jiang, Kaylee Burns, Winnie Xu, Samuel Sokota, J. Zico Kolter, Chelsea Finn. **Neural Functional Transformers**. In *Conference on Neural Information Processing Systems (NeurIPS)*, 2023.
- 2023 Allan Zhou, Kaien Yang, Kaylee Burns, Adriano Cardace, Yiding Jiang, Samuel Sokota, J. Zico Kolter, Chelsea Finn. **Permutation Equivariant Neural Functionals**. In *Conference on Neural Information Processing Systems (NeurIPS)*, 2023.
- 2023 Evan Zheran Liu, Sahaana Suri, Tong Mu, Allan Zhou, Chelsea Finn. **Simple Embodied Language Learning as a Byproduct of Meta-Reinforcement Learning**. In *International Conference on Machine Learning (ICML)*, 2023.
- 2022 Allan Zhou*, Moo Jin Kim*, Lirui Wang, Pete Florence, Chelsea Finn. **NeRF in the Palm of Your Hand: Corrective Robot Augmentation via Novel-View Synthesis**. In *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023.
- 2022 Allan Zhou*, Nick Landolfi*, Dan O'Neill. **Unsupervised language models for disease variant prediction**. Spotlight talk in *NeurIPS Workshops on Structural Biology and Learning Meaningful Representations of Life*, 2022.
- 2022 Huaxiu Yao*, Xinyu Yang*, Allan Zhou, Chelsea Finn. **Multi-Domain Long-Tailed Learning by Augmenting Disentangled Representations**. In *NeurIPS Workshop on Distribution Shift*, 2022.

- 2022 Allan Zhou, Vikash Kumar, Chelsea Finn, Aravind Rajeswaran. **Policy Architectures for Compositional Generalization in Control**. Spotlight talk in *RSS Workshop on Scaling Robot Learning*, 2022.
- 2021 Allan Zhou*, Fahim Tajwar*, Alexander Robey, Tom Knowles, George J. Pappas, Hamed Hassani, Chelsea Finn. **Do deep networks transfer invariances across classes?** In *International Conference on Learning Representations (ICLR)*, 2022.
- 2021 Ferran Alet*, Dylan Doblal*, Allan Zhou, Joshua B. Tenenbaum, Kenji Kawaguchi, Chelsea Finn. **Noether Networks: meta-learning useful conserved quantities**. In *Conference on Neural Information Processing (NeurIPS)*, 2021.
- 2020 Allan Zhou, Tom Knowles, Chelsea Finn. **Meta-learning Symmetries by Reparameterization**. In *International Conference on Learning Representations (ICLR)*, 2021.
- 2019 Allan Zhou, Eric Jang, Daniel Kappler, Alex Herzog, Mohi Khansari, Paul Wohlhart, Yunfei Bai, Mrinal Kalakrishnan, Sergey Levine, Chelsea Finn. **Watch, Try, Learn: Meta-Learning from Demonstrations and Rewards**. In *International Conference on Learning Representations (ICLR)*, 2020.
- 2017 Allan Zhou, Anca D. Dragan. **Cost Functions for Robot Motion Style**. In *International Conference on Intelligent Robots and Systems (IROS)*, 2018.
- 2016 Allan Zhou, Dylan Hadfield-Menell, Anusha Nagabandi, Anca D. Dragan. **Expressive Robot Motion Timing**. In *International Conference on Human-Robot Interaction (HRI)*, 2017.

Honors & Awards

- 2020- **NSF Graduate Research Fellowship**.
National Science Foundation Fellowship for STEM graduate students
- 2014-2018 **Dean's Honors List**, *College of Engineering*.
University of California, Berkeley
- 2015 **Eta Kappa Nu**, *Electrical Engineering and Computer Science Honor Society*.
University of California, Berkeley
- 2014 **Leadership Award**.
University of California, Berkeley
- 2014 **Semifinalist**, *Intel Science Talent Search (STS)*.
Folsom High School/University of California, Davis

Teaching, Mentoring & Outreach

- 2021-2022 **Teaching Assistant (Deep Learning)**, *Stanford*.
Teaching assistant for CS 230: Deep Learning.
- 2021-2022 **Teaching Assistant (NLP with Deep Learning)**, *Stanford*.
Teaching assistant for CS 224N: Natural Language Processing with Deep Learning.
- 2018 **Teaching Assistant (Intro AI)**, *U.C. Berkeley*.
Teaching assistant for CS 188, U.C. Berkeley's introductory artificial intelligence course. Responsibilities included teaching sections, helping develop exams, and grading.

- 2017 **Co-organizer**, *BAIR / AI4ALL Camp*.
Co-organized the BAIR/AI4ALL Camp, a free weekend-long program introducing CS and AI to underprivileged high-school students
- 2016,2017 **Mentor**, *Google Summer of Code (GSoC)*.
Mentored students contributing to open-source through Google's Summer of Code program
- 2014-Present **Contributor & Maintainer**, *Oppia Project*.
Contribute features and bugfixes, do code reviews, and triage issues for Oppia, an open-source online learning project aiming to expand access to education
- 2014-2016 **Project Manager**, *Pioneers in Engineering (PIE)*.
Lead development of interface software for PIE's annual robotics competitions, which provide under-served Bay Area high schools broader access to exciting STEM education.

Skills

- **Programming Languages:** Python, JavaScript, HTML/CSS
- **Frameworks:** PyTorch, Jax, Tensorflow, NumPy, Matplotlib, Pandas, Scikit-learn