

JESSE ZHANG

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EDUCATION

University of Southern California

August 2020 - Current

- CS PhD Candidate

University of California, Berkeley

August 2016 - May 2020

GPA: 3.957/4.00

- B.A. in Computer Science with Highest Distinction
- Honors in Computer Science

RELEVANT COURSEWORK

Operating Systems, Deep/Machine Learning, Real Analysis, Deep Reinforcement Learning, Statistical Learning Theory, Linear Algebra, Convex Optimization, Algorithms, Algorithms for Comp Bio

RESEARCH/EXPERIENCE

Horizon Robotics AI Research Intern

January 2020 - August 2020

Advised by Haonan Yu and Wei Xu

- Proposed a hierarchical RL algorithm in which agents motivated by both intrinsic and extrinsic reward signals to solve sparse-reward, long horizon tasks through unsupervised skill discovery. Submitted to ICLR 2021.

BAIR: Berkeley Artificial Intelligence Research

January 2019 - Present

Advised by Professors Sergey Levine, Dinesh Jayaraman

- ⁶Worked on chaining behaviors across prior and new datasets with offline reinforcement learning.
- ⁵Created CARL, a framework for deep reinforcement learning agents that performs “cautious” adaptation in safety-critical settings to allow for quick adaptation with less catastrophic failures.
- ⁴Co-authored REPLAB, a low-cost robotics benchmark platform for robotic manipulation tasks aimed towards enabling reproducible, standardized grasping and RL benchmarking.

Deep Learning Course Project

January 2019 - August 2019

Worked with Professors Alex Smola and Mu Li

- ³Worked on a course project for a deep learning class: Learned a projection network onto the latent space of Nvidia’s StyleGAN. Applied this to super-resolution and real image clustering.

UC Davis Center for Mind and Brain

May 2018 - August 2018

Worked with Professors John Olichney, M.D. and Xin Liu

- Utilized graph theory on EEG signals to extract features for statistical testing and machine learning classification of multiple types of dementia. Achieved 100% classification accuracy with our framework, compared to 78-97% in the literature.

RISE Lab at Berkeley

September 2017 - June 2018, August 2018 - Jan 2019

Advised by Professors Randy Katz and David Culler, and K. Shankari

- ²Helped propose *MobilityNet*, a privacy-preserving transportation data collection procedure and dataset.
- Utilized secure enclaves to design and implement parts of a privacy-preserving, fault-tolerant system for secure statistical aggregation.

- ¹Launched the first randomized controlled trial to statistically measure the effects of informational and emotional behavior change strategies on participants' transportation behaviors through smartphones.

PUBLICATIONS

⁶Singh, A., Yu, A., Yang, J., **Zhang, J.**, Kumar, A., Levine, S. (CoRL 2020). Chaining Behaviors from Data with Model-Free Reinforcement Learning.

⁵**Zhang, J.**, Cheung B., Finn C., Jayaraman, D., & Levine, S. (ICML 2020). Cautious Adaptation for Reinforcement Learning in Safety Critical Settings.

²Shankari K., Furst J., Argerich M. F., Avramidis E., & **Zhang, J.** (Climate Change ML Workshop at ICLR 2020). MobilityNet: Towards a Public Dataset for Multi-Modal Mobility Research.

⁴Yang, B., **Zhang, J.**, Pong, V., Levine, S., & Jayaraman, D. (ICRA 2019). REPLAB: A Reproducible Low-Cost Arm Benchmark Platform for Robotic Learning. arXiv:1905.07447

³Arfeen, D.*, **Zhang, J.*** (Workshop at ICCV 2019). A Latent Exploration of Human Faces. (<https://youtu.be/lKZAflgwrqY>, arXiv:1910.00579)

¹**Zhang, J.**, Sullivan J., Venkatesh V., Tse K., Yan A., Leyden, J., Shankari K., & Katz, R. (ACM Buildsys 2019). TripAware: Emotional and Informational Approaches to Encourage Sustainable Transportation via Mobile Applications.

TEACHING

Graduate Student Instructor

August 2020 - December 2020

CSCI 566: Deep Learning

USC

- TA'ing for CSCI 566, a graduate-level course on deep learning with over 100 students.
- Giving 2 lectures and advising 6 deep learning project teams.

Undergraduate Student Instructor

August 2019 - December 2019

CS 188: Intro to AI

UC Berkeley

- Served as an undergraduate student instructor for CS 188, an upper-division AI course with over 600 students.
- Lead a discussion section and held office hours
- Received a teaching rating of 4.75/5, 0.42 above the department average

Course Reader

January 2019 - May 2019

CS 170: Algorithms/Intro to CS Theory

UC Berkeley

- Served as a course reader/grader for CS 170, an upper-division algorithms and CS theory course with over 700 students.
- Held office hours and volunteered to lead and write problems for extra sections on difficult material