

# JESSE ZHANG

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## EDUCATION

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**University of Southern California**

August 2020 - Current

*GPA: 4.00/4.00*

- 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

## PUBLICATIONS

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**Zhang, J.\***, Yu, H.\*, Wei, X. (ICLR 2021). HIDIO: Hierarchical Reinforcement Learning by Discovering Intrinsic Options.

Singh, A., Yu, A., Yang, J., **Zhang, J.**, Kumar, A., Levine, S. (CoRL 2020, Oral at NeurIPS 2020 Offline RL Workshop). COG: Connecting New Skills to Past Experience with Offline Reinforcement Learning.

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

Shankari 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.

Yang, 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

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

**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.

## RELEVANT COURSEWORK

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

## RESEARCH/EXPERIENCE

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**CLVR: Cognitive Learning for Vision and Robotics Lab**

August 2020 - Present

*Advised by Professor Joseph Lim*

- Working on tackling generalization and transfer learning problems in robot and reinforcement learning.

**Horizon Robotics AI Research Intern**

January 2020 - August 2020

*Advised by Haonan Yu and Wei Xu*

- Proposed HIDIO, 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.

**BAIR: Berkeley Artificial Intelligence Research**

January 2019 - August 2020

*Advised by Professors Sergey Levine, Dinesh Jayaraman*

- Worked on COG, a method for chaining behaviors across prior and new datasets with offline reinforcement learning.
- Created 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.
- Co-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*

- Worked 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*

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

**TEACHING**

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**Graduate Student Instructor**

August 2020 - December 2020

*CSCI 566: Deep Learning*

*USC*

- Served as a TA for CSCI 566, a graduate-level course on deep learning with over 100 students.
- Gave 2 lectures and advised 6 deep learning project teams.

**Undergraduate Student Instructor**

August 2019 - December 2019

*CS 188: Intro to AI*

*UC Berkeley*

- Served as an undergraduate instructor for CS 188, an 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 for CS 170, an 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