

# Albert Jianqiao Zhai

626-500-7071 | [azhai2@illinois.edu](mailto:azhai2@illinois.edu)

## Education

University of Illinois at Urbana-Champaign *Fall 2021 – Present*  
*Ph.D. in Computer Science*  
California Institute of Technology *Fall 2017 – Spring 2021*  
*B.S. in Computer Science with Minor in Information and Data Sciences*

## Research Experience

Research Assistant (Computer Vision) *Summer 2022 – Present*  
Shenlong Lab, UIUC  
Advisor: Prof. Shenlong Wang

Research Intern (Robot Learning/Vision) *Summer 2024 – Fall 2024*  
Perceptual Reasoning and Interaction Research, Allen Institute for AI  
Advisors: Dr. Wei-Chiu Ma, Dr. Jiasen Lu, Dr. Kuo-Hao Zeng

Research Assistant (Computational Imaging) *Fall 2021 – Spring 2022*  
Computational Imaging Science Lab, UIUC  
Advisor: Prof. Mark Anastasio

Research Intern (Robotics/Learning) *Summer 2020 – Fall 2020*  
Intelligent and Interactive Autonomous Systems Group, Stanford University  
Advisor: Prof. Dorsa Sadigh

Research Intern (Deep Learning) *Summer 2019 – Spring 2020*  
Anandkumar Lab (Tensorlab), Caltech  
Advisor: Prof. Animashree Anandkumar

Research Intern (Vision/Cognition) *Spring 2018 – Spring 2019*  
Shimojo Lab, Caltech  
Advisor: Prof. Shinsuke Shimojo

## Publications

- H. Hsu, Z. Lin, **A. J. Zhai**, H. Xia, S. Wang, *AutoVFX: Physically Realistic Video Editing from Natural Language Instructions*, 3DV, 2025 [[project](#)] [[paper](#)] [[code](#)]
- **A. J. Zhai**, Y. Shen, E. Chen, G. Wang, X. Wang, S. Wang, K. Guan, S. Wang, *Physical Property Understanding from Language-Embedded Feature Fields*, CVPR, 2024 [[project](#)] [[paper](#)] [[code](#)]
- J. M. C. Marques, **A. J. Zhai**, S. Wang, K. Hauser, *On the Overconfidence Problem in Semantic 3D Mapping*, ICRA, 2024 [[paper](#)] [[code](#)]
- **A. J. Zhai**, S. Wang, *PEANUT: Predicting and Navigating to Unseen Targets*, ICCV, 2023 [[project](#)] [[paper](#)] [[code](#)]
- Y. Shen, B. Chandaka, Z. Lin, **A. J. Zhai**, H. Cui, D. A. Forsyth, S. Wang, *Sim-on-Wheels: Physical World in the Loop Simulation for Autonomous Driving*, RA-L, 2023 [[project](#)] [[paper](#)] [[code](#)]
- **A. J. Zhai**, J. Kuo, M. A. Anastasio, U. Villa, *Memory-Efficient Self-Supervised Learning of Null Space Projection Operators*, SPIE Medical Imaging, 2023 [[paper](#)]

- S. Karamcheti, **A. J. Zhai**, D. P. Losey, D. Sadigh, *Learning Visually Guided Latent Actions for Assistive Teleoperation*, LADC, 2021 [[paper](#)] [[code](#)]
- H. Su, L. Wu, J. H. Jiang, R. Pai, A. Liu, **A. J. Zhai**, P. Tavallali, M. DeMaria, *Applying Satellite Observations of Tropical Cyclone Internal Structures to RI Forecast With Machine Learning*, Geophysical Research Letters, 2020 [[paper](#)]
- J. H. Jiang, **A. J. Zhai** et al., *Using Deep Space Climate Observatory Measurements to Study the Earth as An Exoplanet*, Astronomical Journal, 2018 [[paper](#)]
- X. Jiang, A. Kao, A. Corbett, E. Olsen, T. Pagano, **A. J. Zhai**, S. Newman, L. Li, Y. L. Yung, *Influence of Droughts on Mid-tropospheric CO<sub>2</sub>*, Remote Sensing, 2017 [[paper](#)]

## Conference Presentations

- **A. J. Zhai**, J. Kuo, M. A. Anastasio, U. Villa, *Memory-efficient self-supervised learning of null space projection operators*, SPIE Medical Imaging, Physics of Medical Imaging, San Diego, CA, 22 February 2023 [[link](#)]
- **A. J. Zhai**, S. M. Hung, S. Shimojo, *The role of color preference under interocular suppression*, Vision Sciences Society Annual Meeting, St. Pete Beach, FL, 21 May 2019 [[link](#)]
- J. H. Jiang, **A. J. Zhai** et al., *Using Deep Space Climate Observatory Measurements to Study the Earth as An Exoplanet*, American Geophysical Union Fall Meeting, New Orleans, LA, 14 December 2017 [[link](#)]
- **A. J. Zhai**, J. H. Jiang, C. Frankenberg, Y. L. Yung, Y.S. Choi, *OCO-2 Solar-induced Fluorescence Data Portal and Applications to Crop Yield Estimation*, American Geophysical Union Fall Meeting, San Francisco, CA, 16 December 2016 [[link](#)]

## Teaching Experience

### Teaching Assistant

Department of Computer Science, UIUC

- **CS 498**: Machine Perception ..... *Spring 2023*
- **CS 444**: Deep Learning for Computer Vision ..... *Spring 2022*
- **CS 101**: Introduction to Computing: Engineering and Science ..... *Fall 2021*

### Teaching Assistant

Department of Computing and Mathematical Sciences, Caltech

- **CS/ACM/IDS 157**: Statistical Inference ..... *Spring 2021*
- **CS/CNS/EE/IDS 165**: Foundations of ML and Statistical Inference ..... *Winter 2021*
- **CS/CNS/EE 155**: Machine Learning and Data Mining ..... *Winter 2020*
- **CS 038**: Algorithms ..... *Spring 2020*
- **CS 001**: Introduction to Computer Programming ..... *Fall 2018*

## Service

### Reviewer/Program Committee Member

- IEEE International Conference on Robotics and Automation
- IEEE/CVF Conference on Computer Vision and Pattern Recognition
- AAAI Conference on Artificial Intelligence

### Session Chair

- CSL Student Conference Robotics Session

## Selected Awards

- 2024 Qualcomm Innovation Fellowship Finalist
- 2024 CSL Student Conference Presentation Award
- 2019 Google Tech Challenge 1<sup>st</sup> Place Team
- 2018 Caltech Ph 11 Research Fellow
- 2017 Caltech CS 1 Honor Roll 2<sup>nd</sup> Place Winner
- 2016 Helen & Peter Bing Earthwatch Research Award
- 2016 NASA Earth System Science Award