

ZIHUI (RAY) WU

Curriculum Vitae (June 2022)

zwu2@caltech.edu \diamond zihuiwu.github.io

EDUCATION

California Institute of Technology (Caltech)

Pasadena, CA

Ph.D. student in Computing and Mathematical Sciences

Sep. 2020 — May 2026 (expected)

Research advisor: Katherine L. Bouman

Washington University in St. Louis (WUSTL)

St. Louis, MO

Bachelor of Science in Computer Science

Aug. 2016 — May 2020

Second major: Mathematics

Research advisor: Ulugbek S. Kamilov

RESEARCH INTERESTS

My research interests lie at the intersection of computational imaging, optimization, and machine learning. I am mostly interested in designing machine learning algorithms for medical imaging applications, including CT, MRI, ultrasound, etc.

PUBLICATIONS

5. **Z. Wu***, T. Yin*, A. V. Dalca, and K. L. Bouman, “Region-of-Interest Adaptive Acquisition for Accelerated MRI,” *under review*, 2022.
4. T. Yin*, **Z. Wu***, H. Sun, A. V. Dalca, Y. Yue, and K. L. Bouman, “End-to-End Sequential Sampling and Reconstruction for MR Imaging,” *Proceedings of Machine Learning for Health (ML4H)*, PMLR 158:261-281, 2021.
 - **Best Paper Award**
 - Accepted as posters to ICCP 2021 and CVPR 2021 Computational Cameras and Displays Workshop
3. Y. Sun*, **Z. Wu***, Xiaojian Xu*, B. Wohlberg, and U. S. Kamilov, “Scalable Plug-and-Play ADMM with Convergence Guarantees,” *IEEE Transactions on Computational Imaging (TCI)*, vol. 7, pp. 849-863, 2021.
2. **Z. Wu**, Y. Sun, A. Matlock, J. Liu, L. Tian, and U. S. Kamilov, “SIMBA: Scalable Inversion in Optical Tomography Using Deep Denoising Priors,” *IEEE Journal of Selected Topics in Signal Processing (JSTSP)*, vol. 14, no. 6, pp. 1163-1175, Oct. 2020, doi: 10.1109/JSTSP.2020.2999820.
 - Also accepted as paper to ICIP 2021.
1. **Z. Wu**, Y. Sun, J. Liu, and U. S. Kamilov, “Online Regularization by Denoising with Applications to Phase Retrieval,” *Proceedings of the IEEE International Conference on Computer Vision Workshop (ICCVW)*, 2019.
 - **Oral presentation**

INVITED TALKS

- EI Conference on Machine Learning for Scientific Imaging Jan. 2020, Online
 - Title: *End-to-End Sequential Sampling and Reconstruction for MR Imaging*

RESEARCH AND WORK EXPERIENCE

- *Research Assistant*, A.A. Martinos Center for Biomedical Imaging, MGH, Harvard Medical School Jun. 2022 — present Charlestown, MA
 - Research Assistant with Prof. Adrian V. Dalca.

- *Research Assistant*, Caltech
Sep. 2020 — present
– Graduate Research Assistant with Prof. Katherine L. Bouman. Pasadena, CA
- *Research Assistant*, WUSTL
Sep. 2018 — Jun. 2020
– Undergraduate Research Assistant with Prof. Ulugbek S. Kamilov. St. Louis, MO
- *Research Assistant*, WUSTL
Feb. 2018 — Sep. 2018
– Undergraduate Research Assistant with Prof. William Yeoh. St. Louis, MO
- *Website Developer*, Beijing Hengxinqihua Information Technology Co., Ltd.
May 2017 — Jul. 2017 Beijing, China
- *Research Assistant*, Institute of Computing Technology, Chinese Academy of Sciences
Sep. 2015 — Nov. 2015 Beijing, China
– Worked as a research assistant for the project “Video-based Object Tracking and Recognition.”

HONORS

- *Best Paper Award*, Machine Learning for Health (ML4H) 2021 2021
- *Kortschak Scholars Graduate Fellowship*, Caltech 2020 — 2022
- *Dean’s List*, WUSTL FL2016 — FL2019 (all semesters except SP2020 due to COVID-19)
- Selected member of Engineering’s Mentor Collective program, WUSTL 2018, 2019
- *Certificate of Distinction*, American Mathematics Competitions 2015