

# Zihao Zou

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## EDUCATION

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- **Washington University in Saint Louis** Saint Louis, MO  
*M.S. in Computer Science* Expected Winter 2022
- **University of California, Irvine** Irvine, CA  
*B.S. in Computer Engineering* Spring 2020

## SKILLS SUMMARY

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- **Proficient Areas:** Computational Imaging, Computer Vision, Optimization, Neural Radiance Field, Denoising Diffusion Model
- **Programming Skills:** Python, C/C++, CUDA, Pytorch, Distributed Learning

## RESEARCH

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- **Computational Imaging Group** Saint Louis, MO  
*Masters Research Assistant, advised by Prof. Ulugbek Kamilov* Aug 2021 - Current
  - **Denoising Diffusion Models for Image Inverse Problems(ongoing):** Apply diffusion models in image inverse problems.
  - **Deep Model-Based Architectures for Computational Imaging(up-and-coming):** Design probabilistic priors that improve the convergence guarantee for model-based image restoration(PnP/ReD). Propose a new training method to train an artifact removal operator.
  - **Robustness of Deep Equilibrium Architectures to Changes in the Measurement Model(paper):** Investigate the robustness of DEQ priors to changes in the measurement models.
- **HERO Lab** Irvine, CA  
*Bachelors Research Assistant, advised by Prof. Hung Cao* Jul 2019 - Sep 2020
  - **Laser Speckle Contrast Imaging with Smart Phone Camera:** Investigate the feasibility of using a smart phone camera to monitor the laser speckle pattern on human's fingers.

## PROJECTS

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- **Neural Implicit Representation of Medical Data:** A preliminary test on neural radical field of medical data.
- **Pytorch Implementation of YOLO:** Reimplement a Pytorch version of YOLO v1, which takes VGG11 as backbone. Github: [https://github.com/zihaozou/my\\_yolov1](https://github.com/zihaozou/my_yolov1).

## WORKING EXPERIENCE

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- **Washington University in Saint Louis** Saint Louis, MO  
*Teacher Assistant for the course "Nature Language Processing"* Aug 2022 - Dec 2022
  - **Assist Teaching:** Serve as a leading TA, and corporate with other TAs to hold office hours and answer students' questions. Draft slides, homework, exams and projects. Set up the course website and Canvas.
- **Techphant Inc.** Guangzhou, Guangdong, China  
*Embedded System Engineer* Oct 2020 - May 2021
  - **Delta encoding for Embedded Devices:** Enable firmware update on embedded devices by using delta encoding. Github: <https://github.com/zihaozou/Delta>.
  - **Embedded Device Development:** Develop sensor network on STM32 with C/C++.