

# AOCHUAN CHEN

## Ph.D. Student in Computer Science

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### PERSONAL INFORMATION

I am a first-year Ph.D. student in computer science at Michigan State University, where I am advised by **Dr. Sijia Liu**. I am interested in building **scalable and trustworthy** neural networks.

### EDUCATION

**Doctor of Computer Science** 08 2022 — Present  
*Michigan State University, East Lansing, USA*  
Advisor: Dr. Sijia Liu  
OPTML Lab

**Bachelor of Engineering** 08 2018 — 06 2022  
*Tsinghua University, Beijing, China*

### AWARDS

#### Scholarly Awards

• Top 3% Paper Recognition of ICASSP 2023 2023

#### Undergraduate Award

- Entrepreneurship Excellence Award by Qingshan Capital 2021
- Social Practice Excellence Scholarship by Tsinghua University 2020
- Academic Excellence Scholarship by Tsinghua University 2019

### PUBLICATIONS

(\* represents equal contributions)

#### Conference Papers

- [1] **A. Chen\***, P. Lorenz\*, Y. Yao, P. Chen, S. Liu "[Visual Prompting for Adversarial Robustness](#)", 2023 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP'23) [PDF]
- [2] **A. Chen**, Y. Yao, P. Chen, Y. Zhang, S. Liu "[Understanding and Improving Visual Prompting: A Label-Mapping Perspective](#)", The IEEE/CVF Conference on Computer Vision and Pattern Recognition 2023 (CVPR'23) [PDF]

#### Papers under Submission

- [3] Y. Zhang\*, Y. Zhang\*, **A. Chen\***, J. Jia, J. Liu, G. Liu, M. Hong, S. Chang, S. Liu "[Selectivity Drives Productivity: Efficient Dataset Pruning for Enhanced Transfer Learning](#)", submitted to NeurIPS 2023.
- [4] **A. Chen\***, Y. Zhang\*, J. Jia, J. Diffenderfer, J. Liu, K. Parasyris, Y. Zhang, Z. Zhang, B. Kailkhura, S. Liu "[DeepZero: Scaling Up Zeroth-Order Optimization for Deep Model Training](#)", submitted to NeurIPS 2023.

### RESEARCH OF INTEREST

#### Efficient Machine Learning: Efficient Model and Efficient Data

Despite the remarkable success deep machine learning models have achieved, the training & inferencing costs remain high. My research interest in this topic is summarized as follows:

- Design parameter-efficient [2] & data-efficient [3] transfer learning algorithms.
- Design scalable zeroth-order optimization algorithms for deep neural network training [4].

#### Trustworthy Machine Learning: Robust AI and Calibration

The deep learning models' robustness has become a research hotspot. My research interest in this topic is summarized as follows:

- Design efficient test-time defense algorithms [1].
- Leverage model-based Bayesian learning to improve calibration.
- Leverage augmentation-based methods to improve calibration.

### PROFESSIONAL ACTIVITIES

- **Reviewer:** ICML'22, ICML'23, KDD'22, ICASSP'22, ICASSP'23.