

## Research Interest

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I'm broadly interested in large multimodal foundation models (MLLM), including their formulations and applications. I also have experience in self-supervised learning (SSL) and federated learning (FL) from the past.

## Publications & Preprints

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P[1] Cheng-Hao Tu\*, Hong-You Chen\*, Zheda Mai, **Jike Zhong**, Vardaan Pahuja, Tanya Berger-Wolf, Song Gao, Charles Stewart, Yu Su, and Wei-Lun Chao, *Holistic Transfer: Towards Non-Disruptive Fine-Tuning with Partial Target Data*

**NeurIPS 2023**

P[2] Hong-You Chen\*, **Jike Zhong\***, Mingda Zhang, Xuhui Jia, Hang Qi, Boqing Gong, Wei-Lun Chao, and Li Zhang, *Learning Shareable Bases for Personalized Federated Image Classification*

**ArXiv 2023**

P[3] **Jike Zhong**, Yuxiang Lai, Ming Li, Yutong Bai, and Alan Yuille, *Semantic Representation for Scalable Visual Self-Supervised Learning*

**Technical Report**

P[4] Ming Li, **Jike Zhong**, Chenxin Li, Liuzhuozheng Li, Nie Lin, and Masashi Sugiyama, *Vision-Language Model Fine-Tuning via Simple Parameter-Efficient Modification*

**Submitted to EMNLP 2023**

P[5] **Jike Zhong\***, Hong-You Chen\*, and Wei-Lun Chao, *Making Batch Normalization Great in Federated Deep Learning*

**FL-NeurIPS 2023**

P[6] Cheng Zhang, Tai-Yu Pan, Tianle Chen, **Jike Zhong**, Wenjin Fu, and Wei-Lun Chao, *Learning with Free Object Segments for Long-Tailed Instance Segmentation*

**ECCV 2022**

## Education

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**University of Southern California**

08/2024 -

Ph.D. in Computer Engineering

Advisor: Prof. [Konstantinos Psounis](#)

**Johns Hopkins University**

03/2023 - 11/2023

Visiting Researcher in Computer Science Dept.

Advisor: Prof. [Alan Yuille](#)

**Ohio State University**

08/2019 - 12/2022

B.S. in Computer Science and B.S. in Data Analytics (Statistics)

Graduated with Magna Cum Laude (GPA 3.85/4.0)

Advisor: Prof. [Wei-Lun Chao](#)

## Industry Experiences

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**Salesforce**

Seattle, WA, 05/2023 - 08/2024

– Software Engineering (Full-Time): optimizing queries for org migrations within the datalake using LLMs.

**Salesforce**

San Francisco, CA, 05/2022 - 08/2022

– Software Engineering (Intern): building infrastructure and algorithms for capacity planning and forecast.

**Salesforce**

San Francisco, CA, 05/2021 - 08/2021

– Software Engineering (Intern): engineering infrastructure and applications for decommissioning services.

## Research Experiences

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### Research Intern, JHU CCVL Lab

05/2023 -

– Advisor: Prof. [Alan Yuille](#)

Baltimore, MD

– Project: Semantic Representation for Scalable Visual Self-Supervised Learning

– Desc: We propose a novel segment anything (SAM) based tokenizer for object tokenization instead of patch like previously done. By learning on these individual objects using the MAE framework, we observe promising improvements on downstream tasks such as VQA and classification.

### Undergrad Researcher, OSU MLB Lab

11/2021 - 05/2023

– Advisor: Prof. [Wei-Lun Chao](#)

Columbus, OH

– Project: Representing client model as a combination of “bases” for personalized federated learning

– Project: Learning long-tailed instance segmentation with object co-segments

– Project: Analyzing and correcting BatchNorm failure in federated learning under non-iid setting

– Project: Proposing new learning problem: source-free class adaptation (holistic transfer)

– Project: Using Mixture of Expert (MoE) model to resolve intra-client variance in non-IID federated learning.

### Undergrad Researcher, OSU Radar Lab

09/2020 - 11/2021

– Advisor: Prof. [Seth Young](#)

Columbus, OH

– Project: DV8 – Developing algorithms and tools for flight path classification and clustering

– Project: NEXTOR III – Modeling small airport capacity factors through Reinforcement Learning

– Desc: Poster Presentation: Zhengqi Zhu\*, **Jike Zhong\***, Lang Xu\*, Yifan Song, and Seth Young “Innovative Enhancements to Air Traffic Data Visualization Models”

## Teaching & Leadership

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TA, CSE 3241 Database Systems, OSU

2022

TA, CSE 1223 Java Programming, OSU

2020-2021

President, Black Swan Investment Group (BSIG)

2021

Campus Ambassador, Salesforce

2021

Peer Mentor, OSU CSE Dept.

2021

## Services

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Conference Reviewer: CVPR, ICCV

2023

## Talks

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Semantic Representation for Scalable Visual Self-Supervised Learning @[CCVL Lab](#), JHU

2023

Rethinking Normalization in Federated Deep Learning @[ICICLE](#), OSU

2023

## Honors & Awards

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USC Annenberg Graduate Research Fellowship

2024

Salesforce CECM Hackathon 1st place (topic: AI for cost savings in capacity planning)

2023

ASA DataFest Hackathon 1st place (topic: AI for reducing misdiagnosis incidents)

2021

Engineering Honors

2021

Dean’s List all semesters

2020

Entrepreneurship and Innovation Scholars

2019

American Invitational Mathematics Examination (AIME) Qualifier

2019

## Skills

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Tools: PyTorch, TensorFlow, Git

Programming Languages: Python, R, Matlab, C++