Jike Zhong

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Education

Ohio State University 08/2019 - 12/2022
B.S. in Computer Science
B.S. in Data Analytics (Statistics)
Advisor: Dr. Wei-Lun Chao

Johns Hopkins University 05/2023 - 09/2023
Visiting Researcher in Computer Science Dept.
Advisor: Dr. Alan Yuille

Publications & Preprints

P[1] **Jike Zhong***, Hong-You Chen*, Wei-Lun Chao, *Making Batch Normalization Great in Federated Deep Learning*
FL-NeurIPS 2023

P[2] Hong-You Chen*, **Jike Zhong***, Mingda Zhang, Xuhui Jia, Hang Qi, Boqing Gong, Wei-Lun Chao, Li Zhang, *Learning Shareable Bases for Personalized Federated Image Classification*
Submitted to IJCAI 2024

P[3] Cheng-Hao Tu*, Hong-You Chen*, Zheda Mai, **Jike Zhong**, Vardaan Pahuja, Tanya Berger-Wolf, Song Gao, Charles Stewart, Yu Su, Wei-Lun Chao, *Holistic Transfer: Towards Non-Disruptive Fine-Tuning with Partial Target Data*
NeurIPS 2023

P[4] 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

P[5] **Jike Zhong**, Yuxiang Lai, Ming Li, Yutong Bai, and Alan Yuille, *Semantic Representation for Scalable Visual Self-Supervised Learning*
Preprint, Technical Report

Industry Experiences

Data Science, Salesforce (LLM Applications) 05/2023 -
Software Engineering Intern, Salesforce (Capacity Forecast) 05/2022 - 08/2022
Software Engineering Intern, Salesforce (Platform Engineering) 05/2021 - 08/2021

Research Experiences

Research Intern, JHU CCVL Lab 05/2023 -
- Advisor: Dr. Alan Yuille
- Project: Learning Object-Level Representation for Semantic Visual Self-Supervised Learning
- Desc: We explore leveraging semantic representation to assist better visual pre-training. It is known that current vision models do not have the same level of understanding and scalability as large language models (LLMs). To bridge this gap, I proposed using object-level instead of patch-level masking as the visual analogue of words in the masked image modeling (MLM) pipeline. This method yields surprisingly good scene understanding capability and improvements on downstream tasks such as VQA and classification.

Undergrad Researcher, OSU MLB Lab 11/2021 - 05/2023

– Advisor: Dr. Wei-Lun Chao
– Project: Representing client model as a combination of "bases" for personalized federated learning P[2]
– Project: Learning long-tailed instance segmentation with object co-segments P[4]
– Project: Analyzing and correcting BatchNorm failure in federated learning under non-iid setting P[1]
– Project: Proposing new learning problem: source-free class adaptation (holistic transfer) P[3]
– 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: Dr. Seth Young
– 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

TA, CSE 3241 Database Systems, OSU 2022
TA, CSE 1223 Java Programming, OSU 2020-2021

Services

Conference Reviewer, CVPR ICCV 2023
Peer Mentor, OSU CSE Dept. 2021
Campus Ambassador, Salesforce at OSU 2021
President, Black Swan Investment Group at OSU 2021

Talks

Semantic Representation for Scalable Visual Self-Supervised Learning @CCVL Lab, JHU 2023
Rethinking Normalization in Federated Deep Learning @ICICLE, OSU 2023

Honors

Hackathon 1st place (topic: AI for cost savings in capacity planning, Salesforce) 2023
ASA DataFest 1st place (topic: AI for reducing misdiagnosis incidents, OSU) 2021
Engineering Honors 2021
Dean's List all semesters 2020
Entrepreneurship and Innovation Scholars 2019
American Invitational Mathematics Examination (AIME) Qualifier 2019

Skills

Tools: PyTorch, TensorFlow, Git
Programming Languages: Python, R, Matlab, C++