Zhihao Zhang

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EDUCATION

Michigan State University Aug. 2024 – Current
- Ph.D. in Computer Science Advisor: Prof. **Xiaoming Liu**

Xi'an Jiaotong University Sept. 2021 – Jun. 2024
- M.S. in Computer Science and Technology. Advisor: Prof. **Weizhan Zhang**

Xi'an Jiaotong University Sept. 2017 – Jun. 2021
- B.E. in Computer Science, Qian Xuesen Honors College Advisor: Prof. **Weizhan Zhang**

University of California, Berkeley Aug. 2019 – Jan. 2020
- Berkeley International Study Program

RESEARCH INTERESTS

Computer Vision: 3D Shape Understanding, 3D Detection

Machine Learning: Self-supervised Representation Learning, Multi-modal Learning

PUBLICATIONS (* Equal Contribution)

[1] Zhihao Zhang*, Shengcao Cao*, Yuxiong Wang. ***TAMM: TriAdapter Multi-Modal Learning for 3D Shape Understanding***. In Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**), 2024. [Paper]

[2] Zhihao Zhang*, Yiwei Chen*, Weizhan Zhang, Caixia Yan, Qinghua Zheng, Qi Wang, Wangdu Chen. ***Tile Classification Based Viewport Prediction with Multi-modal Fusion Transformer***. In Proceedings of the ACM International Conference on Multimedia (**ACM-MM**), 2023. [Paper]

[3] Zhihao Zhang, Haipeng Du, Shouqin Huang, Weizhan Zhang, Qinghua Zheng. VRFormer: ***360-Degree Video Streaming with FoV Combined Prediction and Super resolution***. In Proceedings of the IEEE International Symposium on Parallel and Distributed Processing with Applications (**ISPA**), 2022. [Paper]

AWARDS & HONORS

SCHOLARSHIPS

- **National Scholarship, Ministry of Education in China** ($< 0.1\%$) Nov. 2023
- **Tencent Scholarship** ($< 0.1\%$) Nov. 2023
- The First Prize Scholarship of Xi'an Jiaotong University Nov. 2022
- Outstanding Freshman Scholarship (Grade 1) Nov. 2021

AWARDS

- Outstanding Postgraduate of Xi'an Jiaotong University Jun. 2024
- **Outstanding Graduate of Xi'an Jiaotong University** Jun. 2021
- Honorary graduate of Qian Xuesen College Jun. 2021

RESEARCH EXPERIENCES

Computer Vision Group, University of Illinois at Urbana-Champaign Champaign, USA
Research Assistant. Advisor: Prof. **Yuxiong Wang** Jun. 2023 - Jan. 2024
- Addressed the domain gap between the 2D images rendered from 3D shapes and the natural images, avoided the vision-semantic feature disparity from impairing 3D representation pre-training.
- Proposed a novel multi-modal learning framework with two learning stages and three unified adapter modules, TAMM [1], consistently enhancing 3D representations for a variety of 3D encoder architectures and downstream tasks.

Key Laboratory of Intelligent Networks and Network Security, Ministry of Education Xi'an China
Research Assistant. Advisor: Prof. **Weizhan Zhang** Sept. 2021 - Dec. 2022

- Transferred viewport prediction task into a tile classification problem and proposed a Multi-modal Fusion Transformer prediction framework, MFTR [2], which achieved state-of-the-art long-term prediction accuracy.
- Proposed an content-aware 360-degree video streaming system, VRFormer [3], significantly enhanced user's Quality of Experience (QoE), surpassing the capabilities of current state-of-the-art methods.

SKILLS

Languages	Python, Java, C/C++, Bash, LaTeX, Golang, HTML/CSS
Libraries / Softwares	OpenCV, Open3D, Pytorch, Tensorflow
Developer Tools	Git, Docker, PyCharm, Vim, VSCode

ACADEMIC SERVICES

Conference Reviewer:

- ACM International Conference on Multimedia (ACM MM 2023)
- European Conference on Artificial Intelligence (ECAI 2023)