

# Yuanhao Zou

📍 Orlando, FL | 📩 yuanhaoz@ucf.edu | 📞 734-358-6400 | 💬 LinkedIn

## Education

University of Central Florida, Orlando, PhD. in Computer Science	Aug 2025 – Present
• Advisor: Chen Chen	
• Research Interest: Video Understanding, Efficient Vision Language Model, Video Anomaly Detection.	
University of Michigan, Ann Arbor, MS in Electrical and Computer Engineering	Aug 2023 – May 2025
• GPA: 4.0/4.0	
• Coursework: Computer Vision (A), Machine Learning (A), Advanced Computer Vision (A), Robotic Mathematics (A+), Large Language Model.	
Central South University, China, BE in Computer Science and Technology	Sep 2019 – Jun 2023
• GPA: 88/100	
• Coursework: Machine Learning, Distributed System & Cloud Computing, Digital Image Processing, Computer Vision, Android Development, Bioinformatics, Computer Architecture, Data Structure & Algorithm.	

## Main Publications

- [CVPR 2026 Submission, Second Author] CLARITY: Medical World Model for Guiding Treatment Decisions by Simulating Context-Aware Disease Trajectories in Latent Space
- [ICLR 2026 Submission, First Author] A.I.R.: Enabling Adaptive, Iterative, and Reasoning-based Frame Selection For Video Question Answering
- [CVPR 2025, First Author] Alignment, Mining and Fusion: Representation Alignment with Hard Negative Mining and Selective Knowledge Fusion for Medical Visual Question Answering
- [CVPR 2025 Workshop, First Author] MVCM: Enhancing Multi-View and Cross-Modality Alignment for Medical Visual Question Answering and Medical Image-Text Retrieval
- [Knowledge-Based Systems, First Author] HFA-UNet: Hybrid and Full Attention UNet for Thyroid Nodule Segmentation

## Internship

Axon (Part-Time)	Oct. 2025 – Dec. 2025
• Efficient Vision Language Model: Developing efficient video anomaly detection model for edge devices like Axon AB4, effectively handling images in low-level and extreme conditions.	

## Research Experience

University of Central Florida, Prof. Chen Chen	Feb. 2025 – Present
• Video Understanding: Frame Selection Model integrates fast lightweight models like CLIP and heavy vision language model, achieving better performance and efficiency. A paper submitted to ICLR 2026	
• Efficient Vision Language Model: Developing efficient vision language models that used on edge devices. A current internship with Axon.	
Stony Brook University, Prof. Zhaozheng Yin	Feb 2024 – Nov 2024
• Medical Vision-Language model: (1) Addressed challenges in cross-modality understanding and the underutilization of multi-view images in medical radiology datasets, and applied to Medical VQA and Medical Image-Report Retrieval. (2) Developed a unified representation alignment approach with hard negative mining and selective knowledge fusion to enhance Med-VQA performance significantly.	
• Outcomes: First Author of two research papers to CVPR 2025.	

- **Medical Image Segmentation:** Developed a deep learning network integrating U-Net and Transformer for hybrid attention and multi-scale fusion modules to address challenges with limited samples and small objects in a new cervical dataset.
- **Outcomes:** a paper published to Journal **Knowledge-Based Systems**.

## Other Publications

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- [International Workshop on Advanced Imaging Technology (IWAIT) 2024] Multimodality semisupervised learning for ophthalmic biomarkers detection.
- [International Workshop on Advanced Imaging Technology (IWAIT) 2024] Alignment, Mining and Fusion: Representation Alignment with Hard Negative Mining and Selective Knowledge Fusion for Medical Visual Question Answering.

## Technologies

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**Proficient Technologies:** Pytorch, Linux, Lightning, Git