

# Yifan Liu

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## Education

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**The Ohio State University**

B.S. in Computer Science

Aug. 2023 – May 2026

**GPA: 4.0/4.0**

**Core Courses:** Machine Learning, Computer Vision, Artificial Intelligence, Operating Systems

## Research Interest

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Trustworthy AI, Large Language Model, Multimodal Learning, AI for Healthcare

## Publications

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**OpenSight: Explainable Open-Set Fine-Grained Recognition with MLLMs**

Khan, F., Liu, Y., Gu, J., Chao, W., Elhoseiny, M.

Under Review

**BeetleFlow: An Integrative Deep Learning Pipeline for Beetle Image Processing**

Liu, F., Rayeed, S. M., Stevens, S., . . . Liu, Y., Record, S., Stewart, C. V., Chao, W.

NeurIPS 2025 Workshop for Imageomics

**Effects of wastewater treatment plant effluent on microbial risks of pathogens and their antibiotic resistance in the receiving river**

Xiao, Z., Qin, Y., Han, L., Liu, Y., Wang, Z., Huang, Y., Ma, Y., Zou, Y.

Environmental Pollution (2024)

## Research Experience

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**Undergraduate Research Assistant**

July 2025 – Present

Supervised by: Dr. Wei-Lun (Harry) Chao

- Built a **multimodal attention visualization** pipeline to trace how Qwen2.5-VL models ground each generated token in prior text and image tokens, by capturing per step head-averaged attention.
- Implemented an **image-token heatmap** module overlaying the model's attention weights onto the input image.
- Created a **text-token highlighter** showing Qwen2.5-VL-7B's reliance on earlier hallucinated text.

**Summer Research Intern**

May 2024 – Aug. 2024

BMI Department, The Ohio State University

- Implemented a pre-processing pipeline of 3D cardiac MRI, including resampling, cropping and intensity normalization.

**Environmental Science Research Assistant**

Feb. 2022 – Dec. 2023

Supervised by: Dr. Yina Zou, Hohai University (Nanjing, China)

- Conducted sampling and measurement of physicochemical factors in samples to analyze river water quality.

## Teaching Experience

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**Undergraduate Teaching Assistant**

Feb. 2025 – Present

- *CSE 2331 (Foundations II: Data Structures and Algorithms)*  
Provided in-class assistance, held office hours, and helped with exam preparation.
- *CSE 2421 (Systems I: Introduction to Low-Level Programming and Computer Organization)*  
Graded labs and helped with debugging C and assembly language in office hours.

## Skills

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**Programming Languages:** Python, C/C++, Java, SQL, JavaScript, HTML/CSS

**Tools and Frameworks:** PyTorch, Git, Linux, Slurm (HPC), LaTeX, Markdown, Docker