Hao Zhou

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Education

South China University of Technology (#17 Best in China on US News) Sep 2022 - Jul 2026

B.E. in Automation (expected 2026)

GPA:3.7/4.0

Research Experience

Shanghai Artificial Intelligence Laboratary Sep 2024 - Present

Research Intern

Advisor: Prof. Yu Cheng

The first completed engineering project involves of (1) Fine-tuning models on private dataset and evaluating effectiveness of these models. (2) Developing a LLMs Recommendation system with RAG. And the second ongoing research project focuses on constructing a **multimodal dataset** for **o1-like** models across diverse domains.

One Shot Industrial Defect Segmentation Challenge (ECCV2024) Jul 2024 - Aug 2024

We participated in a segmentation challenge requiring model training within a limited timeframe, with full flexibility in designing the architecture, preprocessing strategies, and training methods using an official dataset. And my primary responsibility was to select the best encoder which maps provided sample and mask into a low-dimensional space, optimizing defect-specific pattern extraction. Finally, we got the **3rd place** on the leaderboard.

Biometrics and Intelligence Perception Lab of SCUT Sep 2023 - May 2024

Research Intern

Advisor: Prof. WenXiong Kang

Interned with the Gait Recognition Research Group, initially focusing on deep learning fundamentals (e.g., PyTorch, CNNs, Transformers). Subsequently, I studied and reproduced a few papers in gait recognition and knowledge distillation (KD). My work involves leveraging KD and other techniques to optimize and lightweight gait recognition models, such as DeepGaitV2, for improved performance on outdoor datasets like GREW.

Project Experience

2023 China Undergraduate Engineering Practice and Innovation Ability Competition Jun 2023 - Oct 2023

The task involved real-time classification of four types of waste. My responsibilities included dataset collection, YOLOv5 model training, deployment on edge devices (**Nvidia Jetson series**) with **TensorRT**, development of a Qt graphical interface, and communication with the STM32 MCU. The final system achieved a classification accuracy of nearly 70%.

Summer School of National University of Singapore (NUS) Jul 2023

The lecture mainly focusing on traditional ML algorithms, such as Random Forest, Decision Tree, and two vision patterns, Local Binary Pattern(LBP) and HOG. Moreover, I accomplished final task of classifying seven kinds of traffical signs in time, and got a **Distinction** grade eventually.

Intramural Robot Competition Mar 2023

I was mainly responsible for the development of visual algorithm (C++) using **Opencv** library on **Linux system**, as well as constructing a car with block grabbing ability to adapt to multi-terrain with other team members, and finally won the **open source award** of the same track

Skills

Languages: Python ,C++

Frameworks: Pytorch,Triton

Tools: Linux, OpenCV