Yunqi Zhao

M.S. Student, Tsinghua University

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Education

Tsinghua University (THU), Beijing, China — 2022 – 2025
M.S. in Electronics and Information Engineering — Advisor: Lu Fang & Ruqi Huang
GPA: 3.9 / 4.0, Rank: Top 15%

Southeast University (SEU), Nanjing, China — 2018 – 2022
B.E. in Automation — Advisor: Yangang Wang
GPA: 3.9 / 4.0, Rank: Top 2%

Research Interests

My research interests mainly lie in computer vision and robotics, especially in:

- Visual Cognition: Human-centric Visual Analysis in Complex Scenes with Gigapixel Resolution.
- Embodied AI: Perceive, Comprehend, and Interact with the Environment through Physical Entities.

Publications

[1] DynamicTrack: Advancing Gigapixel Tracking in Crowded Scenes
Yunqi Zhao*, Yuchen Guo*, Zheng Cao, Kai Ni, Ruqi Huang, Fu Fang
The IEEE International Conference on Multimedia & Expo (ICME), 2024

[2] GigaTraj: Predicting Long-term Trajectories of Hundreds of Pedestrians in Gigapixel Complex Scenes
Haozhe Lin*, Chunyu Wei*, Li he*, Yuchen Guo*, **Yunqi Zhao**, Shanglong Li, Fu Fang
The IEEE / CVF Computer Vision and Pattern Recognition Conference (CVPR), 2024

[3] Occluded Animal Shape and Pose Estimation from a Single Color Image
Yiming Xie, **Yunqi Zhao**, Shijian Jiang, Jiangyong Hu, Yangang Wang
The International Conference on Image and Graphics (ICIG), 2021

Research Experience

Pedestrian Trajectory Prediction in Gigapixel Complex Scenes — 2023-2024
Advisor: Prof. Lu Fang

- Propose a trajectory prediction dataset featuring hundreds of pedestrians in gigapixel complex scenes.
- Generate pedestrian trajectories, conduct data annotation, and perform statistical analysis.

Multi-object Tracking in Gigapixel Complex Scenes — 2022-2023
Advisor: Prof. Lu Fang and Prof. Yuchen Guo

- Propose a contrastive learning-based detector for simultaneous head and body detection.
- Design a hierarchical association algorithm to utilize head and body cues for multi-object tracking.

Projects

Interactive General Object Grasping — 2024 Apr-Jul
Advisor: Prof. Guyue Zhou

- Develop an interactive general object grasping system for robotic applications in open-world.
- Employ SAM for interactive target localization and GraspNet for general object grasping.

Scene Reconstruction and Understanding for Intelligent Interaction 2021-2022

Advisor: Prof. Lu Fang and Prof. Yangang Wang

- Design a real-time system for indoor scene reconstruction, segmentation, and simplification.
- Develop local and global interaction patterns to improve 3D perception for visually impaired people.

3D Reconstruction of Animals from Single Color Images 2020-2021

Advisor: Prof. Yangang Wang

- Employ a parametric model SMAL for 3D reconstruction of animals from a single color image.
- Predict the shape and pose parameters using the skeletal and contour information of animals.

Honors and Awards

Excellent Graduate, Southeast University. 2022

Outstanding Student, Southeast University. 2021

National Encouragement Scholarship, the Minister of Education, China. 2019

iFLYTEK A.I. Developer Competition, Third Prize (Rank: 3/175). 2022

China College Student Computer Design Competition, Third Prize 2020

Skills and Hobbies

- English Proficiency: IELTS 6.0 – Ongoing improvement
- Programming Languages: Python, C, C++, MATLAB
- Tools/Frameworks: Pytorch, ROS, Git, LaTeX
- Hobbies: I love music, especially R&B and hip-hop. Kanye West and Frank Ocean are my favorite artists. I also really enjoy hiking, experiencing the nature and culture of the places I visit.