

QUE LIU

<https://que-liu.github.io/>

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Education

University of Shanghai for Science and Technology

Sept 2021 – Jun 2025 (Expected)

Bachelor's Degree in Intelligence Science and Technology

Shanghai, China

- GPA: 3.52/4.00, Major GPA: 3.89/4.00

Publications

1. Xing, Yunhao, **Que Liu**, Jingwu Wang, and Diego Gomez-Zara. "SMoRe: Enhancing Object Manipulation and Organization in Mixed Reality Spaces with LLMs and Generative AI." *arXiv [Cs.HC]*, 2024. Available at: <http://arxiv.org/abs/2411.11752>.
2. Muhammad Salman Abid, Mrigank Pawagi, Sugam Adhikari, Xuyan Cheng, Ryed Badr, Md Wahiduzzaman, Vedant Rathi, Ronghui Qi, Choyin Li, Lu Liu, Rohit Sai Naidu, Licheng Lin, **Que Liu**, Asif Zubayer Palak, Mehzabin Haque, Xinyu Chen, Darko Marinov, and Saikat Dutta. "GlueTest: Testing Code Translation via Language Interoperability." In *Proceedings of the 40th International Conference on Software Maintenance and Evolution (ICSME'24) - NIER Track*, 2024.

Relevant Course

- Machine Vision (92)
- Machine Learning (93)
- Autonomous Mobile Robots (98)
- Robot Vision System and Measurement (92)

Research Experience

Robot Position Data Transformation and Communication

Nov 2024 – Present

Graduation Thesis supervised by Prof. Dongxiang Fu

University of Shanghai for Science and Technology

- Designed and implemented position data transformation across static and dynamic coordinate frames in ROS (Robot Operating System), drawing inspiration from multi-task communication and kinematics applications.
- Developed multi-node communication protocols within a distributed robotics framework using C++.

Human-Computer Interaction Research Group

Jul 2024 – Present

Undergraduate Researcher supervised by Prof. Diego Gómez-Zarà

University of Notre Dame

- Integrated depth camera with visual SLAM (Simultaneous Localization and Mapping) on ROS to achieve scene understanding and environmental mapping in mixed reality setups.
- Developed a VR meeting room prototype using Unity and Photon Networking to create multi-user, immersive environments, improving virtual collaboration in distributed teams.
- Leveraged the Generative AI and Large Language Models for better scene understanding and object manipulation of users in mixed reality applications.

Summer Undergraduate Research in Software Engineering

Aug 2023 – Jan 2024

Remote Undergraduate Researcher supervised by Prof. Darko Marinov

University of Illinois Urbana-Champaign

- Assisted in establishing a pipeline of clients libraries for testing compatibility and stability of client integrations to validate the partial translation.
- Leveraged Linux environments for efficient development, utilizing Docker containers for consistent development setups and scaling applications. Utilized GitHub for team collaboration and code review.
- Modified and optimized XML configuration files for better modularity and compatibility across multiple Maven-based Java projects.

School Of Computing Summer Workshop

Jul 2023

Visiting Student

National University of Singapore

- Developed a 2D game from scratch within a 3-week timeframe and acquired proficiency in Unity and C#.

Skills

Programming: Python, C#, C, C++, Java, Matlab, SQL

Tools and Frameworks: ROS, Unity, Docker, Git, PyTorch

Engineering: RealSense, Altium, Keil

Languages: English (TOEFL: 106), French (intermediate), Chinese (native)