

MioLiu

Previously known as Renxin Liu,
used in official documents prior to Oct 2025

Profile

Motivated computer engineering student at RWTH Aachen University with a strong foundation in software development. Experienced in C++, Python, and Swift, with hands-on project work in simulation, robotics, and GUI applications. Demonstrates initiative and teamwork through open-source contributions and success in mathematical modelling competitions.

Education

- Oct 2024 – Present **BSc in Computer Engineering**, RWTH Aachen University, Aachen, Germany
- Oct 2025 – Present **BSc in Computer Science**, RWTH Aachen University, Aachen, Germany

Projects

- Oct 2024 – Dec 2024 **Road Network Simulation**, C++
Designed and implemented a simulation of a dynamic road system with traffic flow control and vehicle routing algorithms. Focused on object-oriented design and performance optimisation.
- Dec 2024 **LEGO Robot Automation**, MATLAB
Developed an object detection and movement control system for a LEGO robot using MATLAB. Implemented parallel processing to improve real-time responsiveness.
- Mar 2025 & Jun 2025 **Open-Source Contribution**, Swift, SwiftUI, macOS
Contributed to an open-source macOS application, submitting UI and performance improvements in SwiftUI. Collaborated through GitHub pull requests and peer code reviews.
- Jun 2025 **Clipboard Management App**, Swift, SwiftUI, macOS
Created a lightweight clipboard management tool for macOS using SwiftUI. Focused on usability, data persistence, and seamless system integration.
- Jun 2025 – Jul 2025 **Route Search Application (Qt GUI)**, C++, Qt
Built a desktop application with an interactive GUI for pathfinding visualisation and route optimisation. Applied graph-based algorithms and integrated GUI event handling.

Skills

- Programming Languages C/C++, Python, JavaScript
- Tools & Frameworks CMake, Qt, MATLAB, Linux, Git, CI/CD Pipelines, Configuration Management
- Languages English (C1), German (C1), Mandarin Chinese (Native)

Achievements

- Apr 2024 **Finalist Award, MCM/ICM (Mathematical Contest in Modeling)**, Python, Data Visualisation
- Jul 2024 **Second Prize, Shuwei Cup Mathematical Modelling Competition**