

LYU CHENCHEN

Mechanical Engineering | Robotics & Computer Vision | chenchlyu3-c@my.cityu.edu.hk | +86-13239735613

EDUCATION

- City University of Hong Kong** | *MEng in Mechanical Engineering* Sep 2025 - Present
Hong Kong SAR, China
• GPA: 2.4/4.3. Focus areas: robotics, computer vision, and intelligent systems.
- Sichuan University** | *BEng in Machine Design, Manufacturing and Automation* Sep 2021 - Jun 2025
Chengdu, China
• Average Score: 88.5/100; Third Prize, Outstanding Undergraduate Thesis (Design).

SELECTED RESEARCH & PROJECT EXPERIENCE

- Low-contrast Target Pose Recognition Based on Binocular Vision** | Jun 2025
Independent Researcher
• Developed a multimodal perception system combining RGB and depth data for robust low-contrast target recognition and precise 6-DoF pose estimation.
• Built a ROS-based real-time architecture with POSIX shared-memory communication and a Qt interface for efficient deployment.
• Improved recognition robustness under low-contrast industrial conditions and validated the system for precise pin localization in enterprise scenarios.
- All-Weather Unstructured Road Drivable Area Detection** | Mar 2023 - Jul 2024
Core Member & Corresponding Author
• Developed a lightweight deep-learning method for drivable-area detection in unstructured road scenes under adverse weather conditions.
• Integrated dehazing preprocessing, improved Lite-Mobilenetv2 feature extraction and attention-enhanced pyramid pooling for real-time perception.
• Led manuscript submission and revision as corresponding author; the work was published in Applied Sciences (2024) and reported a 3.84% efficiency improvement over existing methods.
- Multi-Task Composite Robot Based on Cooperative Control and Dynamic Programming** | Oct 2023 - Jul 2024
Core Member
• Developed C/C++ motion-control interfaces for AGVs and robotic arms, supporting multi-robot coordination, visual 6-DoF pose estimation, and Matlab/QP simulation.
• Contributed to technical reports, proposal materials, and project defense for a provincial student innovation project.
• The project was rated Excellent and later evolved into a home-service robot concept with 3D modeling and simulation, which won a provincial third prize.

LEADERSHIP, CAMPUS ACTIVITIES & SERVICE

- City University Post-graduate Association (CUPA)** | 2025 - Present
Member, Academic Affairs Department
• Supported protocol reception, guest coordination, and audience guidance for high-profile academic forums.
- Student Leadership, Sichuan University** | 2021 - 2023
Deputy Director, "Teacher-Student Bridge" | Class Monitor & Student Cadre
• Organized student activities and class operations, coordinated with faculty, and supported communication across students and staff.
- Community & Public-Service Volunteering** | Volunteer 2022 - 2025
• Responded to major public-service needs including COVID-19 community support, Tai Po post-fire relief, and LegCo outreach, assisting with supplies distribution, resident support, and public communication.

INTERNSHIP EXPERIENCE

- China Petroleum Chuanqing Drilling Engineering Co., Ltd.** Oct 2024 - Jun 2025
| Intern, Institute of Safety and Environmental Protection
Quality Supervision and Testing
• Investigated derrick structures and equipment workflows to identify the practical challenge of real-time pin recognition and positioning in low-contrast environments.
• Applied my graduation-design research to develop an industry-oriented vision solution for the company's robotic derrick project, supporting real-time pin detection and positioning.
• Worked closely with engineers and supervisors across on-site investigation and laboratory development, building communication and coordination skills in a professional setting.

PUBLICATIONS, HONORS & SKILLS

- **Publications:** Applied Sciences (2024) on all-weather unstructured road drivable area detection; two Chinese publications on signal analysis and mechanical-wave applications (2023).
- **Honors:** National Encouragement Scholarship (2022-2024); Certificate of Excellent Engineer Education and Training Program (2025); University Merit Student (2 years); Outstanding Student Leader (1 year); multiple awards in robotics, innovation, public speaking, and Chinese classics competitions.
- **Skills:** C/C++, Python, Qt, CMake, Git, ROS/ROS2 basics, OpenCV, MATLAB, SolidWorks, AutoCAD; CET-6: 533.
- **Interests:** Singing, hiking, volunteering, and exploring robotics and new technology.