Aaron Chou

+886-9-70819587 | aaron890707@gmail.com | uuuloon.github.io | Aaron Chou | uuuloon

EDUCATION

National Taiwan University (NTU), *B.Sc. in Mechanical Engineering* — Taipei, Taiwan

- Last 60 GPA: 4.03/4.3 | CGPA: 3.80/4.3 — Sept. 2018 – Jan. 2023
- **Coursework:** Automatic Control, Digital Control System, Kinematics, Dynamics, Computer Programming

Aoyama Gakuin University (AGU), *Exchange Program* — Tokyo, Japan

- **Coursework:** Data Structures and Algorithms, Introduction to Computer Systems — Sept. 2022 – Jan. 2023

PUBLICATIONS

[1] **Y.L. Chou**, Y.S. Luo, L.C. Wang, H. Mandala, G.H.G. Christmann, C.Y. Lee, W.C. Chen, et al. *Feasibility-Guided Planning over Multi-Specialized Locomotion Policies*, IEEE International Conference on Robotics and Automation (ICRA), 2026. (link)

EXPERIENCE

Inventec Corporation, AI Center, Robotics, Advisor: Dr. Wei-Chao Chen — Taipei, Taiwan
Robotics Research Engineer — Quadruped Robots — Mar. 2025 – Present

- **Vision-Language Navigation (VLN)**: Research **VLN** (link) in unseen environment through natural language instruction.
- **Learning-Based Control**: Developed a low-level control SDK for quadruped platforms with no official API, enabling deployment (link) of learning-based locomotion policies trained in **IsaacGym** and establishing reusable infrastructure.
- **Terrain-Aware Navigation**: Trained a 15 cm gap-traversal policy, implemented a feasibility-guided planning framework supporting skill selection on hybrid terrain, and contributed to an ICRA 2026 submission [1].
- **SLAM Optimization**: Improved single-LiDAR SLAM by **dual-LiDAR fusion** (link) in ICRA 2025 QRC, achieving a **65%** reduction in mapping-to-navigation time and enabling rapid terrain reconstruction in dynamic environments.

Flytech Technology Co. Ltd. — Taipei, Taiwan
Robotics Engineer — Autonomous Mobile Robots — Mar. 2024 – Jan. 2025

- Engineered a precise docking system (demo) by integrating motion control, localization, and a customized rack tracker, achieving navigation accuracy of **±1–1.5 cm** to minimize redocking attempts in production deployments.
- Developed and maintained **10+ ROS packages** and delivered a patrol demo showcased at Computex 2024.

Chien Kuo High School, Robotics team, FRC#8020 CyberpunK — Taipei, Taiwan
Youth Mentor — Mechanical Design — Feb. 2022 – Jul. 2023

- Mentored 30+ students for robot design, CAD/CAM, CNC operation, and testing of the competition-ready robot (demo).

PROJECTS

Isaac_MoveIt Manipulator Integration, *Collaborative Project* (demo) — Jun. 2025 – Present

- Integrated **IsaacSim** with **MoveIt2**, enabling manipulator control in simulation for future dexterous research.

Differential-Wheeled Robot, *Independent Project* — Mar. 2022 – Aug. 2022

- Developed a SLAM-capable mobile robot by integrating LiDAR with an edge-computing platform for real-time mapping with affordable cost under **120$**, laying the groundwork for later AMR development and quadruped research.

SKILLS

Robotics: IsaacGym, IsaacSim, ROS/ROS2 (navigation2, MoveIt2, FAST_LIO), Path Planning, Sensor Fusion, SLAM

Toolkits: Docker, Git, Blender, PCL, SolidWorks/CAM, LaTeX

Programming: Python, C++, Shell Scripting (Bash)

HONORS & COMPETITIONS

2025 ICRA Quadruped Robot Challenge (QRC) — Participation Certificate, Autonomous (demo) — Atlanta, GA

2023 Admission to Tohoku University, M.S. in Mechanical Engineering — Tohoku, Japan

2022 FIRST Robotics Competition (FRC) Sacramento Regional, Finalist (Team Mentor) — Sacramento, CA

2020 Fall Dean's List Award (top 5% of the class in the semester) — Taipei, Taiwan