

Ching-Hsiang Wu

•<https://tigerwuu.github.io> •tiger871108@gmail.com •+886-972724369

EDUCATION

National Taiwan University

Taipei, Taiwan

Master of Science, Automatic Control in Electrical Engineering

Feb. 2025

Bachelor of Science, Biomechatronics Engineering

Feb. 2022

Relevant Courses: Automatic Control, Digital Control, Adaptive Control, Optimal Control, Reinforcement Learning, Nonlinear system analysis, 2D/3D Computer Vision.

SKILLS

Programming: Python, C/C++, MATLAB, Qt.

Robotics: ROS/ROS2, Isaac Sim/Lab, Rviz, Gazebo, SolidWorks, Simulink.

Controller: Raspberry pi, Arduino, Nvidia TX2/Xavier, Pixhawk series, PX4.

Artificial Intelligent: Deep learning, Reinforcement learning.

Specialty: Robot manipulator kinematics/dynamics, Control system, Computer vision.

RESEARCH EXPERIENCE

Inventec Inc.

Taipei, Taiwan

Robotics engineer

Nov. 2025-Now

Moveit2 and ROS2 on an autonomous robotic system

- Validate the function of the robotic system through RViz and Isaac Sim simulator.
- Study admittance and impedance control to ensure robot safety.
- Sensorless external wrench estimation implementation in Isaac sim.

Networked Control System Laboratory (NCSLab)

Taipei, Taiwan

Graduate student

Feb. 2023-Feb. 2025

Fixed-wing UAVs formation flight under variant wind disturbances

- Design the Lyapunov-based formation controller and sliding mode wind observer for fixed-wing UAVs.
- Validate the formation flight performance via SITL simulation, integrated with PX4, Gazebo, and ROS2.

AiSeed Tech Inc.

Taipei, Taiwan

Robotics AI engineer intern

Oct. 2021-Aug. 2022

Validate VTOL UAV systems functionality with ROS and Gazebo simulator

- Design a landing algorithm with a changeable landing position for VTOL UAVs.
- Stream inferred video from UAV system to website or ground station through Gstreamer.

Robots and Medical Mechatronics Laboratory (RMML)

Taipei, Taiwan

Undergraduate researcher

Sept. 2019-Sept. 2021

Develop a platform for remote control robots for oral and nasal cavity specimen collection

- Build an autonomous specimen collection robot with remote center motion (RCM) mechanism.
- Win sponsorship from the Ministry of Science and Technology (MOST) for 800000 NTD dollars.

LEADERSHIP EXPERIENCE

RL Final Project – Q-Drive

Taipei, Taiwan

Use PPO to train a quadruped to reach a desired position with tripod gait

Oct. 2024-Dec. 2024

- Leverage curriculum learning and hierarchical RL techniques to utilize both front legs of quadrupeds.
- Effectively divide work to team member and organize the weekly meeting to sync up the project progress.
- Win the first 10th place out of 25 groups in the final presentation competition.

Azalea Festival Project

Taipei, Taiwan

Build an autonomous sensing and catching apple car system

Feb. 2020-Mar. 2020

- Grab apples with a RRR manipulator automatically by obtaining apples' 3-D coordinates.
- Train a model to recognize green and red apples with tiny-yolov3.

PUBLICATION

Lyapunov-Based Formation Controller Design for Fixed-Wing UAVs under Variant Wind Fields

- Wu and Lian, International Conference on Advanced Intelligent Mechatronics (AIM2025)