Ching-Hsiang Wu

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

EDUCATION

National Taiwan University

Master of Science, Automatic Control in Electrical Engineering — Taipei, Taiwan

- **Overall GPA: 4.19/4.30** — Feb. 2025
- Relevant Courses: Optimal Control(**A+**), Reinforcement Learning(**A+**), 3D Computer Vision with Deep Learning Applications(**A**)

Bachelor of Science, Biomechatronics Engineering — Taipei, Taiwan

- **Overall GPA: 3.39/4.30** — Feb. 2022
- Relevant Courses: Dynamics and Control of Robots(**A**) Automatic Control(**A**), Digital Control Systems(**A**), Adaptive Control Systems(**A**), Digital Image Processing(**A-**)

SKILLS

Programming: Python, C/C++, Qt, MATLAB, WebDev Languages.
Software: SolidWorks, Simulink, Gazebo, Rviz, Isaac Sim, Qt designer, ROS/ROS2.
Controller: Raspberry pi, Arduino, Nvidia TX2/Xavier, Pixhawk series, PX4.
Artificial Intelligent: Deep learning (Yolo, CNN), Reinforcement learning (DQN, PPO).

RESEARCH EXPERIENCE

Networked Control System Laboratory (NCSLab) — Taipei, Taiwan

Graduate student — Feb. 2023-Feb. 2025

Fixed-wing UAVs formation flight under variant wind disturbances

- Fixed-wing UAVs modeling, formation controller, and wind observer design.
- 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

Build UAV systems with ROS

- Responsible for the VTOL drone function validation through SITL simulation in Gazebo
- Design a landing algorithm with a changeable landing position for VTOL drones.
- 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.
- Design RCM linkage mechanism.
- Win sponsorship from the Ministry of Science and Technology (MOST) for 800000 NTD dollars.

LEADERSHIP EXPERIENCE

2024 RL Final Project — Taipei, Taiwan

Use PPO to train a quadruped to reach a desired position with tripod gait. — Oct. 2024-Dec. 2024

- Effectively divide work to each member and organize the weekly meeting to sync up the project progress.
- Win the first 10th place in the final presentation competition.

2020 Azalea Festival Project — Taipei, Taiwan

Build an Automatic sensing and catching apple car system — Feb. 2020-Mar. 2020

- Grab apples with a 4-axis manipulator automatically by obtaining apples' 3-D coordinates.
- In charge of training a model to recognize apples with tiny-yolov3.

HONORS AND ACHIEVEMENTS

2020 Taoyuan ROS SUMMER SCHOOL

Integrate NeuronBot with ROS/ROS2 and self-defined algorithms to achieve navigation missions.

- Win the advanced group second runner-up.