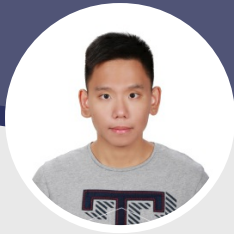


# PO-JUI HUANG



## Personal

- Phone number**  
+886-972241565
- Email**  
rayhuang100.eed06@g2.nctu.edu.tw
- Website**  
<https://ray0727.github.io/>

## Skills

Python	● ● ● ● ●
ROS	● ● ● ● ●
C / C++	● ● ● ● ●
Gazebo	● ● ● ● ●
PCL	● ● ● ● ●
Git	● ● ● ● ●
Docker	● ● ● ● ●

## Languages

Chinese	● ● ● ● ●
English	● ● ● ● ●

## About Me

Hi, I'm Ray, a master student studying at National Yang Ming Chiao Tung University, department of Electrical and Control Engineering, advised by Prof. Hsueh-Cheng Wang. I am diligent and enjoy new challenges, also good at cooperating in a team.

## Education

<b>M.S. in Electrical and Control Engineering</b> National Yang Ming Chiao Tung University, Hsinchu	Feb 2021 - Present
<b>B.S. in Electrical and Computer Engineering</b> National Chiao Tung University, Hsinchu	Sep 2017 - Jan 2021

## Research Interests

Robotics, Deep Learning, Deep Reinforcement Learning

## Research Experiences

J.-T. Huang, C.-L. Lu, P.-K. Chang, C.-I. Huang, C.-C. Hsu, Z. L. Ewe, **P.-J. Huang**, and H.-C. Wang(2021), "Cross-Modal Contrastive Learning of Representations for Navigation using Lightweight, Low-Cost Millimeter Wave Radar for Adverse Environmental Conditions" *IEEE Robotics and Automation Letters, (RA-L)*. 6(2), 3333-3340

- cross-modal contrastive learning for representations (CM-CLR) method was proposed to maximize the agreement between mmWave radar data and LiDAR data in the training stage to enable autonomous navigation using radar signal.
- I am responsible for the UGV hardware system and executing experiments.
- I am in charge of the future work for using conditional GAN to reconstruct Lidar data to mmWave radar data.

DARPA Subterranean Challenge Urban Circuit in Elma, Washington, USA, Team NCTU

- The DARPA Subterranean Challenge seeks novel approaches to rapidly map, navigate and search in underground environments. The urban circuit was held at an unfinished nuclear power plant in Elma, WA. Team NCTU ranked 8-th out of 10 teams in the Urban Circuit.
- I was an undergraduate team member of Team NCTU, responsible for the UGV hardware system, and the spherical nodes and miniature cars for communication systems.

Deep Reinforcement Learning for Unmanned Vehicle(UGV, USV)

- Implementation of different reinforcement learning algorithms such as DDPG, RDPG and D4PG by PyTorch, the DRL agents were trained by Gazebo simulator.
- Currently working on solving RobotX 2022 missions with deep reinforcement learning method.

## Teaching Assistant Experience

- NCTU Introduction to Artificial Intelligence (Fall 2020)
- NCTU AI Robot Development Workshop (Summer 2020)