

# Jui-Te ‘Ray’ Huang

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## Education

**B.S.** in Electrical and Computer Engineering,  
National Chiao Tung University (NCTU), Taiwan.

09, 2016 ~ present

## Research Interest

Robotics, Computer Vision, Automatic Control System, Deep Learning, Marine Robotics

## Projects

- **Maritime RobotX Challenge:**

I'm one of the members of Team NCTU in represent our university to participate the biggest maritime robotics competition in the world. We built an entire system of self-driving boat based on Wave Adaptive Modular Vessel (WAMV) including powering, propulsions, sensing, computation units.... etc. We have used the camera and lidar to perceive the environment, GPS and IMU for localization. And use both deep learning and traditional algorithms to accomplished the task of RobotX Challenge. Finally, we've got the fifth place of 2018 RobotX Challenge in Hawaii. And we are planning to improve our performance in order to participate the 2020 RobotX Challenge.

- **Duckiepond:**

Duckiepond originally is our pet project for RobotX Challenge inspired by Duckietown (project of MIT). We built a small version of our self-driving boat only using single Raspberry Pi board, one pi-camera, GPS and IMU which has a significant cost down. We call it "duckieboat". This project is aim to build a platform for learning marine robotics. We are writing the tutorial for duckieboat in order to let the user can have an easy way to join the world of marine robotics. We also provide machine learning capability on the duckieboat using Intel Neural Compute Stick. Users can run some deep learning models on the Raspberry Pi. The duckieboat also can have other applications like scientific research with some hardware upgrade. Duckiepond project is going to be part of the Dckieworld along with Duckietown.

- **Electronics Circuit Simulation System:**

This project is my final project of Advanced Object-Oriented Programing class. I build a simulation system for passive electronic components similar to LTSPICE. Users can connect the circuit and run simulation to see the output of simulation results.

## Skills

- **Programing:** Python, Java, C/C++, MATLAB
- **Middle ware and Libraries:** Robotic Operating System (ROS), OpenCV, Scikit-learn
- **Deep learning Framework:** TensorFlow, PyTorch
- **Others:** 3D Printing and Modeling,

## Relevant Coursework

Java Programing, Object-Oriented Programing, Data Structure, Operating System, Automatic Control System, Digital Signal Processing, Introduction to Machine Learning.