

# Pin-Wei 'David' Chen

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## Education:

**M.S.** in Institute of Electrical Control Engineering,  
National Chiao Tung University (NCTU), Taiwan. 2018~present

**B.S.** in Electrical and Computer Engineering (ECE),  
National Chiao Tung University (NCTU), Taiwan. 09/2014~06/2018

## Research Interests:

Robotic Vision 、 Automatic Control System 、 3D perception

## Related Courses:

Sensing and Intelligent Systems (A+), Automatic Control Systems (A+), Object-Oriented Programming (A+), Creative Software Project-Autonomous Vehicle(A+), Robotics (A), Imaging Processing

## Research Projects and Professional Experience:

### **Duckietown: A Platform for Autonomy Research and Education**

- **A short introduction for duckietown**

Duckietown is a robotic research and education platform developed in MIT in 2016. There are many branches in the world, such as in Eidgenössische Technische Hochschule Zürich (ETHZ), Toyota Technological Institute at Chicago (TTIC), Université de Montréal (UdeM) and National Chiao Tung University (NCTU). The course number of the ETHZ course is 151-0323-00L Autonomous Mobility on Demand: From Car to Fleet. More information please see [duckietown.org](http://duckietown.org)

- **Teaching Assistant in Duckietown @ NCTU, Taiwan**

I serve as a teaching assistant in the NCTU branch, and design several course modules and experiment using ROS (Robot Operating System), Python, OpenCV, Arduino. I also lead a project teams working on Gazebo, a simulator for ROS.

- **Lecturer in Duckietown Summer School, Duckietown Summer School 2017 (Summer 2017)(English lecture)**

Duckietown Summer School is a course to train potential instructors and teaching assistant. The official website: [http://duckietown.nctu.edu.tw/summer\\_school.html](http://duckietown.nctu.edu.tw/summer_school.html).

## **Multi-robot Patrolling System**

We realize that robot can help us with something routine and cycling, just like patrolling, which we should patrol lots of nodes again and again. As a result, I come up with this idea, trying to build a multi-robot patrolling system using ROS. This is a potential and practical project, it can apply to surveillance & security, and production line delivery. The source code and demo video link is available in GitHub: [https://github.com/championway/multi\\_robot\\_patrolling](https://github.com/championway/multi_robot_patrolling).

## **3D Object Modeling**

Nowadays, people are using 3D information more often to do their work than 2D information. As a result, I try to build a 3D point cloud model. The technical I use include ICP, iSAM, TF. The source code and demo video link is available in GitHub: [https://github.com/championway/3D\\_Object\\_Modeling](https://github.com/championway/3D_Object_Modeling)

## **Working & Teaching Experience:**

**Teaching Assistant**, Robotic Vision (Spring 2018), Creative Software Project (Fall 2017), Department of Electrical and Computer Engineering, NCTU, Taiwan

## **Professional Skills:**

**Programming:** C/C++, Python, Matlab, JAVA

**Middleware and Libraries:** Robotic Operating System (ROS), OpenCV, PCL (Point Cloud Library)

**Sensors and Hardware:** Depth Camera (RealSense SR300, ZED)

## **Leaderships:**

**Captain of Kaohsiung Senior High School Basketball Team** (2013~2014)

**Administrative Assistant of Student Association of Department of Electrical and Computer Engineering** (2016~2017)

**Captain of Electrical and Computer Engineering Basketball Team** (2016~2017)

**Co-founder and Leader of National Chiao Tung University Calligraphy Club** (2016~2017)