

# Eric Chou (周呈陽)

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## Relevant Courses

- EE/CCE : DSP, Optimization Theory, Stochastic Process, Communication Network, ASP, Wireless Communication
  - CS : Image Processing, OOP, CV, DL, CO, ALGO, DS
- (An underline indicates that the course is in progress.)

## Education

### National Cheng Kung University (NCKU)

09/2023 - Now

Degree: M.S. Inst. of Computer and Communication Engineering (CCE)

Advisor: Prof. Wenson Chang | Lab: Wireless Communication and Network Lab

### National Cheng Kung University (NCKU)

09/2019 - 06/2023

Degree: B.S. Dept. of Systems and Naval Mechatronics Engineering (SNAME)

## Programming

C, Python, MATLAB, C++ (sorted by familiarity)

## Projects

[Senior Project] Designing and Manufacturing of Intellectually Unmanned Ship, **Python & C** 2023

- **Problem:** The project addressed the challenge of autonomous maritime navigation, enabling the unmanned ship to efficiently navigate through various aquatic environments without human intervention. It solved issues related to real-time obstacle detection and avoidance, route optimization, and adaptive response to changing water conditions.
- **Result:** Developing real-time image recognition and sound source localization algorithms with the **Raspberry Pi** involved addressing obstacles such as environmental noise interference, camera instability due to water surface movements, and efficient communication with the control system. Additional complexities arose from signal delays between various development boards, including Raspberry Pi and **Arduino**. A significant component of the project also involved integrating Arduino for precise ship control.

[Team Project] Audio Classification by ResNet50, **Python (Pytorch)** 2022

- **Problem:** Transforming audio data into frequency-based images for classification, where similar frequencies could lead to failed classifications due to lack of distinct features or noise in the audio.
- **Result:** Reaching an 80% accuracy in audio classification by refining its CNN model to ResNet18, effectively leveraging frequency ranges.

[Personal Project] A tracking and obstacle avoidance vehicle with Arduino, **C** 2022

- **Problem:** Challenges included hardware integration, unstable sensor performance, and optimizing motor control for navigation
- **Result:** Designed an Arduino-controlled vehicle to tackle navigation issues. Improved sensor accuracy and motor response, and refined navigation programming through iterative testing for effective course completion.

[Personal Project] Design an algorithm to remove reflections from thousands of lattice structures, **MATLAB** 2023

- **Problem:** Encountered issues with incorrect grid boundary detection, varied shadow gaps, and incomplete coverage of reflective shadows when applying a single algorithm across diverse images.
- **Result:** Achieved an accuracy of 85% and ranked 3rd among 40 people in the class.

[Personal Project] Seminar reminder LINE BOT, **Python** 2024

- Leveraging **Heroku**, **Git**, and **GitHub** for seamless management providing keyword reminders, submission of seminar reflections, and other functions.

## Awards

FitTech Graduation Scholarship (惠特科技畢業獎學金) 2023

Higher Education Sprout Project Scholarship (高教深耕計畫獎學金) 2021

J.C.WANG Foundation Scholarship (王榮圳文教基金會獎學金) 2021, 2022

The 64<sup>th</sup> Alumni Association Scholarship (64級系友會獎學金) 2021

NTNU Entrepreneurship Competition Excellent Work (台師大創業競賽佳作) 2021

TOEIC 865 2018

## Extracurricular Activities

Young Entrepreneurs of the Future Program at Epoch School 02/2021 - 07/2021

General convener of the orientation camp (迎新宿營總召) 09/2020 - 09/2021

## References

Assistant Prof. at NCKU : Dai, Ming-Jyun (戴名駿) | Mail: [mjdai@gs.ncku.edu.tw](mailto:mjdai@gs.ncku.edu.tw) | Tel: 0960100944

Associate Prof. at NCKU : Chen, Chih-Chiang (陳智強) | Mail: [ccchenevan@mail.ncku.edu.tw](mailto:ccchenevan@mail.ncku.edu.tw) | Tel: 0934271190