Frank Hsu

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Portfolio: [Project list - HackMD](https://hackmd.io/yy3zxBWhTMSE0irVHhE6SA?both)

**Summary**

I am now studying electrical engineering in UNSW and my course division is system and control. I am interested in implementing control theory in real world such as motor speed control and water level control. I also spend time on embedded system and coding which are important for realizing control algorithm with digital controller.

**Education**

02.2021 – Present  **The University of New South Wales** Sydney, Australia

*Master of electrical engineering*

09.2014 – 06.2018 **National Tsing Hua University** Hsinchu, Taiwan

*Bachelor of Science in Power Mechanical Engineering*

**Work Experience**

06.2019 – 10.2020 **Academia Sinica (Institute of Physics)** Taipei, Taiwan

*Research Assistant*

* Design X ray tomography light path system including CAD design and manufacturing.
* Build communication UI on PC to send and receive signal of a robot controller (With RS-232)
* Design robot path planning for replacing experiment samples.

05.16.2022 – 05.28.2022 **Academia Sinica (Institute of Information Scienece)**

**Project Experience**

09.2017 – 01.2018 **Self-Driving Vehicle** National Tsing Hua University

* Integrate motor control, computer vision and Bluetooth communication, based on ROS.
* Implement digital PI control algorithm development.
* Build coordinate system based on Apriltag

01.2017 – 06.2018 **NTHU Racing Team** National Tsing Hua University

*A team for building a race car and participating Formula Student competition in Japan.*

* Lead steering system group to design and manufacture steering system hardware.
* Design battery management circuit(BMS) for low voltage system. Controls charging and discharging operation of a battery pack (Using four 21700 in series).
* Use Altium designer to produce schematic and PCB layout file.

06.2021 - 08.2021 **OV7670 camera with STM32**

* I2C communication between camera and the microcontroller.
* DCMI programming.
* Direct Memory Access (DMA) programming.

**Skills**

**Programming**

C, Python

**Software & OS**

Altium designer, Solidworks, Matlab, Git, Linux ubuntu, ROS

**Language**

Taiwanese, English (Toefl iBT: 90), Japanese (N3 passed)