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| **Merlin**  **SECOND YEAR GRADUATE STUDENT**   |  |  | | --- | --- | |  | No. 35, Ln. 109, Nanyuan St., North Dist., Tainan City, Taiwan (R.O.C.) | |  | 0987303333 | |  | bryan640811@gmail.com | |  | <https://github.com/Sun970053> | |

**RESEARCH OVERVIEW**

* I study in Satellite Research Laboratory - [SPACELAB](http://satellite.ncku.edu.tw/)
* Developed IoT payload(Internet of Thing) for the space system of Lilium-1 .
* Lilium-1 CubeSat’s mission objective is to demonstrate Internet of Things CubeSat communication technology and in-orbit intelligent remote sensing data processing technology.

**EDUCATION**

* B.A. in Mechanical Engineering (2017-2022)
  + My mechanical engineering department ranking is 19%
  + Class of '62 Chen Mao-Qiang Scholarship - 50,000 NTD
  + Working as an intern at [POSIFLEX TECHNOLOGY, INC](https://www.posiflex.com/zh-tw/Company-profilex/index).
* **Master's degrees in Electrical Engineering (2022-present)**

**RELEVANT COURSEWORK**

* **Electronic Navigation (A+)**
  + The algorithm used for positioning in GPS
  + Digital signal processing (DSP).
* **Object Oriented Programming And Its Applications (A)**
  + Develop an accounting application in C++ using object-oriented programming (OOP).
* **Data Structures (A-)**
* **Operating System (A)**
* **Computer Architecture (Taking a course)**
  + RISC-V instruction, datapath, pipeline, multithreading and synchronization.
* **Embedded Operating System (A+)**
  + Using freeRTOS (Real-Time Operating System) to develop IoT environment sensing devices.
  + Define packet format and facilitate communication between IoT devices using the LoRa technique.

**SKILLS**

* **C programming** (Embedded System, e.g. STM32)
* Manage multithreading in an MCU and apply various data structures using **FreeRTOS**.
* Basics of **Git** (Version Control)
* **Digital signal processing** (Using **GNU Radio** to simulate, filter, modulate, and demodulate the signal)

**CERTIFICATES AND COMPETITION**

Nov. 2022

* **HEPTA-sat training course certificate, UNISEC (University Space Engineering Consortium)**
  + Build a 1U CubeSat and learn about the satellite's subsystems, assembly and integration.

Oct. 2023

* [**National Intelligent Innovation and Cross-Field Integrated Competition in 2023**](https://niicc.cilab.csie.ncu.edu.tw/) **- Second place in IoT group**
* [**National Intelligent Innovation and Cross-Field Integrated Competition in 2023**](https://niicc.cilab.csie.ncu.edu.tw/) **- Special Award for Cross-Field Integration**
  + Competition finalist in the Internet of Things (IoT) category.
  + Developing a robot with edge AI capabilities using STM32.
  + In addition to digital signal processing algorithms, it also includes the use of Kalman Filter and PID control for robot positioning and attitude.

**SPEAKER**

Mar. 2023

* **Speaker:** [**The sixth ground station/ground sensor terminal workshop**](https://tech.gov.bt/6th-ground-stationground-sensor-terminal-workshop)**, at Thimphu, Bhutan**
  + Introduce the development progress and current technical content of the National Cheng Kung University's satellite ground station as a speaker at this workshop and exchange technical knowledge with participants from various countries.
  + Conduct tests to simulate LoRa signal frequency shift and signal attenuation to approximate real-world conditions.
  + Develop a mobile ground sensor terminal with a LoRa module to communicate with the CubeSat in low Earth orbit.