ENOCH CHAU

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Programming Languages
- C
- C++
- Python

Web Development
- HTML
- CSS
- Bootstrap
- Java Script (familiar)

Software Tools
- Git
- KiCAD
- Cadence Virtuoso
- PSpice
- Mathematica

Firmware
- freeRTOS
- Arduino
- ESP32
- ESP8266
- Raspberry Pi

Operating Systems
- Windows
- Linux Shell

Lab Tools
- Oscilloscope
- Soldering

Language
- Chinese: *heritage speaker, some reading and writing*

EDUCATION

B.S. Electrical Engineering: Electronic Circuit Design
UC Irvine: 3.43 GPA — Exp. Grd Jun ‘20
Course Work: IC Design, Power Electronics, Semiconductors

EXPERIENCE

Research Assistant — Apr ‘19–Current
California Plug Load Research Center, UC Irvine

- Create Arduino firmware using freeRTOS to interface sensors (I2C, SPI, UART)
- Implement IoT using MQTT protocol on ESP32 micro-controllers
- Manage and on-board new members by dividing work into specific training tasks
- Perform hardware troubleshooting, PCB population, & SMD rework

Peer Academic Advisor — Mar ‘18–Current
Henry Samueli School of Engineering, UC Irvine

- Organize and present workshops addressing Engineering career pathways and study abroad
- Advise engineering students in curriculum planning and degree progress checks for ABET certification

Hardware Engineering Intern — Jun ‘19–Aug ‘19
Panasonic Avionics Corporation, Lake Forest, CA

- Investigated hardware issues in Line-replaceable Units (LRU)
- Resolved component obsolescence by evaluating datasheets
- Completed FAA regulated ESD, thermal, and power cycle tests

PROJECTS

Coffee Grams (*Personal*) — Mar ‘20–Current

- Experimenting with a scale that record weights of coffee and water into an Apache server and MariaDB database on Raspberry Pi
- Design a schematic and PCB for the scale with ESP32 WiFi micro-controller

Workout Timer (*Personal*) — April ‘20

- Created interval training timer web app using Java Script

GPS Sound Sensor (*UCI Senior Design*) — Sep ‘19–Mar ‘20

- Created a sound-based location sensor with Android app UI
- Implemented RS-232 masters-slave connection between microcontroller and WiFi module to communicate with Android App over MQTT
- Developed Embedded Linux firmware for RS-232 connection to GPS

Scale Up (*SD Hacks Hackathon*) — Oct ‘19

- Used machine vision and weight to track calories of fruit
- Enabled Google Vision with Raspberry Pi Camera to capture fruit types
- Interfaced Raspberry Pi with HX711 load cell amplifier to weigh fruit
- Pulled caloric data form USDA food and nutrition API

HC2: IoT Environment Sensor — Aug ‘19–Jan ‘20

- Developed Raspberry Pi Python firmware and Arduino firmware libraries to interface with Rotronics HC2 temperature probe
- Integrated HC2 into IoT network including LoRa and WiFi to generate email notifications during temperature fluctuations