Franklin O'Sullivan

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Personal section

I am a third-year Computer Systems Engineering student at the University of Auckland. This degree couples electronics and software engineering to teach an array of theoretical and practical skills related largely to computer architecture and embedded systems. Though it also teaches me many electronics and software engineering skills, useful to know for computer systems and important to understand for real-world applications.

I plan to gain a position as an intern in which I will be able to do real work for a company while gaining support from senior developers who can help me solve problems efficiently and in the correct manner. It would also be a massive bonus if this position allowed me to return for subsequent periods, allowing my skills to develop further in a familiar environment.

Skills

- **Software:** Python, C, VHDL, HTML, CSS, JavaScript, Git
- **Hardware:** Soldering, Simulating, Circuit and PCB Design
- **Limited Experience:** Java, React, Next.js, C#, C++, Linux, Exiting Vim

Projects

SR-Latch

Hardware

- I created an SR-Latch (one-bit computer memory) using passive components.
- I was interested in this project because of its usefulness in applications such as computer memory and registers. It also helped me further develop my simulating, breadboarding and soldering skills while teaching me about power usage and selecting optimal components.

AI Sign-language recognition

Software

- The purpose of this project was to help support people who do not understand American Sign Language (ASL), to get an understanding of what the basic signs mean.
- This project was implemented using Python, along with PyQt, PyTorch and data processing tools. The final project had an accuracy of 96%.

Smart Energy Monitor

Firmware, Hardware, Software

- Worked with a team to develop a smart energy monitor. By reading the voltage across and current through a load using a shunt resistor, we could find and display the root mean square and peak values of current, voltage and power. We then wrote these values to a 4-bit 7-segment display, UART transmission to a computer and python application.

To view more info about any of these projects and to see many more, go to Franklinosullivan.github.io

Work Experience

Field Engineer - Internship

IOTVentures - Apr. 2023, Present

- Throughout this internship I have been working with Embedded C firmware and electronic circuits to wrtie, test and deploy firmware for LoRaWan technologies.

Installer and technician

Hot spring spa pools - Nov. 2022, Feb. 2023

- This position allowed me to gain a familiarity with electrical systems in use within the comsumer market. My tasks involved: connecting and verifying both mains lines up to 15Amps, and peripherals/ interfaces, testing and troubleshooting of damaged electrical and electronic systems or repairs of such systems.

ICT Tutor

Scratchpad - Aug. 2022, Nov. 2022

- This position gives me a platform to share my knowledge of Software and Hardware with curious children who wish to learn more. Through tutoring them, I am able to better grasp on software concepts I have learned as I am able to describe them in a simpler and more effective way.

Shift Runner

Domino's - Dec. 2019, Jun. 2022

- This position allowed me to guide other employees to use their time efficiently so that we could collectively have tasks completed by, or before their deadline. This taught me about people management as well as organising time for a group of people.

Education

Bachelor of Engineering (Honors)

Specialising in Computer Systems Engineering

University of Auckland - Nov. 2024

NCEA Lvl. 1-3

Rangitoto College - Nov. 2020

Hobbies/Interests

Taekwondo - Black Belt
Rock Climbing
Bouldering
Science and Electronics