Chienpeng (Allen) Huang

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EDUCATION

Texas A&M University — **College Station, Texas, United States**
MS in Computer Engineering, GPA: 3.9/4.0, graduate merit scholarship — Jan 2021 - Dec 2022

National Taiwan University — **Taipei, Taiwan**
MS in Mechatronic Engineering

National Taiwan University — **Taipei, Taiwan**
BS in Mechatronic Engineering

SKILLS

Programming Languages: Python, C++, C, C#
Domain Knowledge: SSD, NAND, BMS, RTOS, Firmware, Object-Oriented Programming, Algorithm
Tool: Git, Github, Keil, JTag, Azure, Bitbucket, Jira, Jenkins

EXPERIENCE

Arbin Instruments — **College Station, Texas**
Embedded Software Engineer | Application Engineer — Feb 2023 -

- Contributed to the development of **RTOS**-based firmware for **STM32** microcontrollers, focusing on the firmware development of new features including enhancements to scheduling and driver code.
- Identified the **root cause** of complex issues within **firmware** code, leading the debugging efforts across **multiple models** to ensure optimal system performance and reliability.
- Led and mentored an intern in developing a **Python**-based data **visualization** application using Tkinter and Dash libraries, enhancing user capability to visualize and analyze battery data efficiently.
- Conducted **Python** code to **automate** the process of comprehensive research on algorithms to accurately calculate key lithium-ion battery metrics, including State of Charge (SOC) and State of Health (SOH).
- Developed a **C#** application to facilitate GPIB communication between various devices like meters and power sources, applying the MVP concept for improved interoperability and reliability.

Solidigm — **Folsom, California**
Software Engineer Intern — Jun 2022 - Nov 2022

- Integrated simulation features as part of the **system modeling team**, delivering **performance simulations** for next-generation **SSD**s, enhancing predictive accuracy and development efficiency.
- Developed Solid-State Drive system level integration model feature in **C++**, facilitating the simulation of **multi-page reads** in parallel within firmware, which was successfully deployed in production environments.
- Implemented unit and integration tests using C++ **SystemC** library, ensuring corner case coverage and simulating real world scenarios with 90% coverage. Adopted **CI/CD** practices through **Jenkins**.
- Applied **object-oriented design** principles to improve code flexibility and extensibility, enabling simulation of various micro-command sizes and reducing the potential for human errors.

HAITEC – Yulon Nissan Motor — **Taipei, Taiwan**
Software Engineer — Apr 2018 - May 2019

- Developed a State of Charge (SOC) estimation **algorithm** to address battery level fluctuation, resulting in a **5%** improvement in accuracy, and implemented it on two electric car models.
- Built an **automated testing tool** for monitoring data transfer between electronic control units (ECUs), which combined an internal database to decode CAN data and improve the efficiency of data decoding by **70%**.
- Designed tests for the Battery Management System (**BMS**) using **Vector's CANoe** software and resolved CAN bus issues by analyzing and interpreting data captured with CANalyzer.