Thien Nhan H. Nguyen

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Education

Washington State University Vancouver, WA

Bachelor of science in Electrical Engineering, Minor in Computer Science *June 2021*

Experience

R&D Engineer Intern Feb. 2020 – Jan. 2021

Rightline Equipment, Inc *Vancouver, WA*

- Investigated and troubleshot various electrical problems throughout the project, including improper connection, electrical shorts, signal outputs, and component faults
- Assisted in developing the company's newest products by code maintenance and prototyping of to-be-included features on Arduino and STM32 platforms
- Conducted research and designs on ClearPath servo motor to fabricated a testbed for the company's battery-powered servo clamps
- Utilized Eagle EDA and Raspberry PI to design a circuit board that interfaced the embedded Linux with the Smart clamp

Projects

Encoder Display Interface | C, Arduino, Altium Designer August 2020 – June 2021

- Collaborated with team members remotely through digital platforms, GitHub and Zoom, and to create realistic weekly goals that are achievable by individual members
- Sourced components from vendors and inspected data sheets to implement semiconductors and passive components into a system that meets the project requirements
- Reviewed and assisted team's development of code and hardware design with the use of the Altium designer/ Circuit Maker, and the Arduino IDE
- Designed IPC compliant footprints that can interface 8-bit AVR with analog, PWM, Quadrature, and RS232 style encoders through Altium Designer's EDA
- Communicating with sponsors to obtain engineering expertise in integrating components, systems, and processes into a cohesive and functional prototype

SPI Bit-banging on ARM Cortex-M4F | C, GNU ARM Embedded Toolchain, Linux March 2020 – Jan 2021

- Programmed standard protocols to control ARM Cortex-M4F evaluation board's GPIO to create a working SCK, CS, MOSI, and MISO interface using the bit-bang method
- Manipulated registers on the IO Expander with an interrupt system on any of its GPIO pins by bit masking the data
- Programmed an ISR and debouncer software for the ARM Cortex to be used in tandem with interrupt signal from the IO Expander

Clark College Aerospace's Software Engineer | C/C++, Arduino Sept. 2018 – June 2019

- Oversaw the software development of the reaction wheel control system in an interdisciplinary team for the Spaceport American Cup competition
- Implemented software and hardware designs to process data from analog signals and BNO055 absolute orientation sensors that met the team's design expectations
- Collaborated with an interdisciplinary team to investigate hardware and software to troubleshoot and debug problems within the system
- Programmed in C with Arduino open-source API to create a speed controller for the reaction wheel with I2C communication to other onboard peripherals.

Technical Skills

Languages: Python, C/C++, Assembly
Engineering Tools: Multi-meter, Oscilloscope, Re-flow soldering, EagleCad, Altium Designer, Linux terminal, Arduino, STM32CubeMX, Atmel Studio 7.0