ERIC O'NEILL

Contact: ericoneill10@gmail.com Phone: (847) 962 2298
Portfolio Website: ericoneill10.github.io

OBJECTIVE: Seeking a position in embedded systems development to apply skills learned to design, code, and test new products

EDUCATION

University of California, Berkeley — Graduated May 2015
B.S. Electrical Engineering and Computer Science

PROJECTS

Sensorytriptych Interactive Watch — January 2015 – October 2015

- Integrated GPS, vibration motor, LCD screen, and tilt compensated compass to create a watch that helps navigate to locations of interest
- Communication between RFduino microcontroller and ATmega328 using I2C, communication between various sensors using SPI and UART
- Wrote library for Arduino to communicate with SC16IS750 I2C/SPI to UART converter and pin expander

Natcar Competition: Line Following Racecar — January 2015 – June 2015

- Designed a PCB using EagleCAD for various electronic systems including a line scanning camera, rotational encoder, motor driver, and servo
- Designed and implemented velocity and steering PD control systems on an mbed FDRM-KL25Z microcontroller
- Modeled and 3D printed camera mount and mast in Solidworks

Mechatronic Fish — October 2014 - December 2014

- Built mechanical flopping fish that responds to touch and proximity sensors
- Designed PCB for power regulation and integration of electrical components and various sensors and actuators
- Wrote software that controlled the behavior of the fish using a finite state machine

EXPERIENCE

Embedded Software Engineer — June 2019 – Oct 2019
Dolby Laboratories

- Implemented audio routing algorithms to send audio data to different DSP cores
- Created a robust Python based console to interact with embedded devices which could send and receive data to multiple cores on device for testing and tuning
- Worked with chip supplier to upgrade project based on provided ADK to new versions

Embedded Software Engineer — March 2016 – June 2019
S&C Electric Co.

- Responsible for maintaining and fixing bugs on IntelliRupter memory module software
- Designed and assembled test simulator for IntelliRupter product, debugged quadrature encoder simulator software
- Resolved errors in circuit board fabrication and automated testing process
- Responsible for board bring up and initial driver development including UART, ADC, RTC, and timers on Kinetis K66 processor
- Implemented proprietary communication protocol, helped design and write secure firmware update software using this protocol
- Represented embedded software functionality on multidisciplinary team throughout product development lifetime

Embedded Systems Engineer — October 2015 - December 2015
Clarity Inc.

- Implementing UART and BLE communications for a particle counter on Nordic nRF51822 microcontroller
- Collecting data to determine the best voltage thresholds for accurate determination of size of collected particle from photoresitor voltage
- Wrote library to use ESP8266 Wifi module on nRF51822 microcontroller

Research Assistant January 2015 – September 2015
UC Berkeley

- Designed and implemented electrical and software systems for the Sensory Triptych interactive watch run by Eric Paulos

Automation Intern May 2014 - August 2014
Lecorpio, Inc. Fremont, CA

- Wrote and maintained software automation suite in Java using Selenium

Intern May 2012 - August 2012, May 2013 – August 2013
University of Chicago Computation Institute, Chicago, IL

- Collaborated with a team to write a sentiment analysis program for newspapers in Java and created data visualizations using d3.js

SKILLS

- Tools and Technologies: EagleCAD, ARM microcontrollers, ColdFire microcontrollers, LabVIEW, NumPy, SciPy, iPython, git, SPI, I2C, RS-232
- Languages: Python, C++, Java, C, JavaScript, MATLAB