ERIC O'NEILL

Local Address: 15 Canyon Road, Berkeley, CA 94704
Permanent Address: 5126 W. Morse Skokie, IL 60077
Contact: ericoneill10@gmail.com Phone: (847) 962 2298

OBJECTIVE: Seeking entry level job or internship in embedded systems development to apply skills learned to plan, code, and test new mechatronic or embedded systems

EDUCATION

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

Relevant Courses: Control Systems, Mechatronics, Data Structures, Embedded Systems, Signals and Systems, Artificial Intelligence, Algorithm Analysis, and Design, Software Engineering, Discrete Mathematics, Linear Algebra and Calculus

PROJECTS

Sensorytriptych Interactive Watch — January 2015 – Current

- 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 RS-232
- 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

- Integrated and 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 microprocessor
- Modeled and 3D printed camera mount and mast in Solidworks

Mechatronic Fish — October - December 2014

- Built mechanical flopping fish that responds to touch and proximity sensors
- Designed PCB and integrated electrical components of various sensors and actuators
- Wrote Statechart software that controlled the behavior of the fish

Recruiting@Berkeley — January – May 2014

- Designed and implemented a full scale web application using Ruby on Rails to implement a recruiting website
- Wrote full test suite including unit tests, end to end tests, and automation using Capybara and Selenium

Search and Learning Algorithms — August – November 2013

- Wrote various search algorithms, search heuristics, reinforcement learning algorithms, and alpha-beta pruning for a Pacman game in Python. The project was completed with a partner where we both contributed to each component of the project.

EXPERIENCE

Research Assistant — January 2015 – Current

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

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

- Wrote and maintained software automation suite in Java using Selenium
- Part of team that implemented 100% unit tests and multiple integration tests of all major features

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

- Collaborated with a team to write a sentiment analysis program for newspapers in Java
- Analyzed data gathered from the sentiment analysis program and outputted useful graphs
- Communicated with researchers to appropriately visualize sentiment analysis data using d3.js in JavaScript

SKILLS

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