Portfolio: nathan-lam.com nathancy@hawaii.edu GitHub/LinkedIn: nathancy

Objective

To gain more real world experience in the fields of Computer Engineering/Science.

**Education** 

## **Bachelor's of Science in Computer Engineering**

University of Hawaii at Manoa, May 2018 Projected Graduation

GPA: 3.87

# Work Experience

#### Summer Games Cyber Intern, Booz Allen Hamilton

May 2017 - Aug 2017

- Researched a prototype proof-of-concept based on blockchain technology to define trust relationships through secured vehicle-to-vehicle communications.
- Developed autonomous robotic cars using LIDAR and the Zigbee wireless protocol capable of informing network traffic for collective decision-making.
- Simulated successful high-trust communications protocol and autonomous resilience against the injection of malicious inputs by rouge actors.

## Software Engineer Intern, Spectrum Photonics Inc.

May 2016 - Aug 2016

- Built data-logger web-server from scratch using the Django web framework to log data via UART on a Raspberry Pi into .csv files using Python scripts.
- Improved data collection efficiency and enabled instant data conversion.
- Designed and customized web interface using HTML5/CSS to create, edit, remove, or view logging data.

# **Project Experience**

### Micromouse, Firmware Team

Aug 2017 - Present

- Design and build an autonomous self-contained robotic vehicle capable of navigating through a previously unknown maze with the shortest time and path.
- Implement adaptive intelligence through positional/velocity controllers and a modified Flood Fill algorithm to reliably find the optimal route to the center of a maze.

## **REIS Sensing and Monitoring**, Software Team

Aug 2016 - Present

- Design and implement firmware for highly distributed weather sensor network to analyze solar irradiance, pressure, humidity, and temperature patterns.
- Maintain/update data collection and storage infrastructure.

## Android App, Software Team

Aug 2016 - Dec 2016

Built application using OCR technology to convert scanned text captured by a camera into a digital format.

### Smart Campus Energy Lab, Weatherbox Team

Spring 2016

Designed and programmed a low-cost, accurate, and reliable prototype weatherbox using environmental sensor modules to forecast weather patterns.

## Liquid-Metal Electronics, Software Lead

Spring 2016

- Implemented continuous electrowetting automation and precise positional control for reconfigurable electronic devices using Galinstan.
- Eliminated manual actuation requirement and improved RF device prototyping.

Computer Skills

Languages: C, C++, Python, Java, HTML, CSS, JavaScript

Toolsets/Frameworks: Vim, gcc, g++, Git, Cygwin, Intellij, Django, Meteor, Semantic UI, Jekyll

Leadership **Experience**  Webmaster, IEEE-Eta Kappa Nu Honor Society, UH Manoa Member, Golden Key International Honor Society, UH Manoa

Aug 2016 - Present Oct 2015 - Present

Treasurer, IEEE Student Branch, UH Manoa

Aug 2015 - Present

#### Volunteer

#### **Swim Coordinator**, American Red Cross Summer Buddies

Jun 2008 - Aug 2014

Taught kids (ages 3-11) how to swim, educated about ocean safety, First Aid/CPR Certification, and various community service projects.