Ethan Tran

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Education

B.S. in Electrical and Computer Engineering; University of California, Los Angeles **GPA: 3.84**

-Expected Graduation: Winter 2020

Relevant Coursework: Object-Oriented programming, Algorithms and Data Structures, Intro to Machine Learning, Computer Networks, Signals and Systems, Digital Signal Processing, Feedback and Control

Experience

Rockwell Collins Advanced Datalinks - Systems Engineering Co-op **January 2018 - August 2018**

- Software development in a Scrum/Agile framework with two week sprints for a new product development team
- Wrote Python libraries and scripts to enable testing on remote raspberry pis, saving thousands of dollars in prototype hardware and engineer hours
    - Enabled build results to be viewed in the web application, facilitating developer collaboration (Javascript, HTML)
- Created unit tests in C++ and identified and fixed bugs in the operating environment that prevented compatibility with the product code base
    - Automated Continuous Integration workflow with Python to rebuild and expand error reporting systems
- Redesigned API to allow for batched calls between the operating environment and waveform layers (C++, XML)
- Developed software for embedded system components using I2C, SPI, and ethernet protocols
- Refactored Wireshark plugin and developed custom tools to help with updating plugins for other programs

AIAA Unmanned Aerial Systems - Software Engineer **September 2017 - Present**

- Created a model to train drone to recognize obstacles using Keras and OpenCV
- Built a Flask server to enable real time interaction and visualization of the data obtained from the flying drone
    - Developed RESTful APIs to service front-end built using React, enabling real time mission control
    - Deployed software using docker and custom testing frameworks

UCLA Rocket Project - Communications Engineer Lead **May 2017 - June 2018**

- Directed a team of 8 students to develop a communications system to ensure reliable control and telemetry with rocket
- Wrote embedded software enabling data acquisition and wireless communication using TCP and UDP
- Developed software to visualize rocket instrumentation data in real time using Python matplotlib and concurrently save the data to an onboard SQLite database
    - Employed use of C POSIX threads and python concurrency to efficiently parse and handle the serialized data

IEEE Advanced Projects **September 2016 - June 2017**

- Designed interactive games (e.g. whack-a-mole) in C that employ the use of different communication protocols; e.g. I2C, SPI
- Created a wireless air mouse with custom gestures that can be used for presentations

Projects

(checkout my site for more!)

Danger Zone!

- Developed an Android app that acts as a civilian alert system to notify users of dangers within their proximity
    - Implemented a geofence using Google Maps API and push notifications for alerts
- Prototyped app using Firebase as a database to update, store, and retrieve real time location and alerts
    - Migrated into a Flask backend using a PostgreSQL database

Quadcopter

- Designed a custom PCB to integrate a microcontroller chip with on-board peripherals
- Wrote custom flight software to be loaded into the microcontroller
    - Wrote the controller library in C and implemented proximity and “autopilot” features

Skills

Programming Languages: Experienced: C++, C, Python; Familiar: Java, Javascript, Bash Scripting, HTML, CSS

Software: SQL, Git/SVN, Agile Scrum, MATLAB, Android SDK, Flask, Django, Node.js, Express, OpenCV, Keras, Tensorflow, Docker, AWS

Activities

MentorSeas Mentor **September 2017 - Present**

- Mentored first year and transfer computer engineering students

UCLA Learning Center Consultant **September 2017 - December 2017**

- Managed technological resources available to students and led workshops teaching students new skills

HKN Honor Society Tutor **September 2016 - Present**

- Provide tutoring help in core electrical and computer engineering courses