

William Chong

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EDUCATION

University of California, Los Angeles

Expected Graduation Jun. 2022

B.S., Computer Science

- **Relevant Coursework:** Operating Systems Principles; Computer Systems Architecture; Logic of Digital Systems; Algorithms and Data Structures; Engineering Design (4 distinct quarters); Intro to EE; Discrete Math.

TECHNICAL SKILLS

Software: C, C++, Python, Bash, Unix, Git, Java, MIPS and x86 Assembly, G-Code, PyTorch, CUDA, TensorFlow, Flask, HTML/CSS.

Hardware: Circuit Design, Soldering, CAD, PCB design (EAGLE), Microcontrollers, Verilog.

WORK EXPERIENCE

NextFlex – Process Engineering Intern

Jun. 2020 – Sep. 2020

Flexible Hybrid Electronics Manufacturing Institute

- Leveraging PyTorch/CUDA ML image processing to automate inspection processes for flexible hybrid circuitry, improving throughput and accuracy of previously manual circuit inspection processes.
 - Currently developing, training, and deploying the Deep Learning model to a multi-device inspection system.
- Wrote camera and motion system control interfacing with Python and G-Code; also did Flask GUI development.

SIMR – Bioengineering Intern

Jun. 2017 – Aug. 2017

Stanford Institutes of Medicine Summer Research Program (SIMR)

- Designed and engineered a novel biomedical device with four peers, to display tension at a surgical site in order to prevent surgically induced nerve damage and/or assist in the training of surgeons.
- Led the component testing and integration portion of the prototyping design process.

ENGINEERING PROJECTS

Automatic Ethanol Sterilizer

Jan. 2020 – May 2020

- Designed and prototyped an automatic ethanol sprayer for lab usage with 5 other Biomedical Engineering Society members. The spray mechanism is actuated by a distance-sensing IR sensor, and includes variable spray frequency.
- Created spray mechanism using CAD and 3D printing, assisted with circuit design and iterative testing, and translated circuit design to a PCB design with Autodesk EAGLE.

IoT Security: Temperature Reporting Embedded System

Mar. 2020 – Jun. 2020

- Developed an embedded C program on a BeagleBone WiFi Board that communicates with a central control server via TCP/TLS. The BeagleBone client polls for commands from the server and reports temperature readings back.

Analysis of Multithreaded Access to Sorted Linked List

Mar. 2020 – Jun. 2020

- Wrote an application that uses POSIX Threads to perform parallel updates to a sorted, doubly linked list structure.
 - Decreased resource contention by partitioning the list into sublists, increasing throughput and parallelism.
- Used gperftools, an execution profiling tool, along with gnuplot to analyze different synchronization techniques.

AFFILIATIONS

- **Biomedical Engineering Society**, *Design Team Project Manager, Design Team Member.* Sept. 2018 – Present
 - Design Team PM: Leading a team to design and build a biomedical device. Apr. 2020 – Present
- **Institute of Electrical and Electronics Engineers (IEEE)**, *Open Project Space Member.* Sept. 2019 – Present

INTERESTS

- Computer Hardware, Biomedical Devices, Embedded Systems, 3D Printing, Cooking, Piano, Drawing