William Chong

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EDUCATION

University of California, Los Angeles **Expected Graduation Jun. 2022**

B.S., Computer Science

- **Relevant Coursework:** Algorithms and Complexity (IP); Intro to ML (IP); Systems and Signals (IP); Intro to Bioinformatics (IP); Operating Systems; Computer Architecture; Digital Systems Logic; Engineering Design

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

- Leveraged PyTorch/CUDA ML image processing to automate inspection processes for flexible hybrid circuitry; improving inspection throughput by 10 times compared to previously manual circuit inspection processes.
  - Trained and deployed 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