**William Chong**

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**EDUCATION**

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

B.S., Computer Science, Engineering Course GPA: 3.6/4.0

**CS**

**AI/ML**

Algorithms and Complexity Programming Languages

Bioinformatics

Operating Systems

Compiler Construction

Computer Security

Computer Networking

Computer Architecture

Learning Machines (Grad Course) Artificial Intelligence

Neural Networks and Deep Learning

Neural Signal Processing

**TECHNICAL SKILLS**

**Software:** C, C++, Python, Bash, Linux/Unix, Verilog, OCaml, CLisp, Scheme, Prolog, R, Git, PyTorch, Keras, TensorFlow, Embedded Software, MIPS and x86 Assembly, G-Code, Flask, JavaScript, TCP/TLS, Agile development.

**WORK EXPERIENCE**

**NextFlex – Software Engineering Intern Jun. 2020 – Present**

*Flexible Hybrid Electronics Manufacturing Institute*

* Demonstrated and implemented Machine Learning models on flexible, Edge devices. Worked with Zephyr Real Time OS, ML experiment tracking tools, and sensor data capture over Bluetooth.
* Improved circuit inspection process throughput by 10 times by developing a ML-based automated inspection system
* Wrote Camera and Motion System control interfaces with Python and G-Code; created a user GUI with Flask/JS.

**UCLA Biomedical Engineering Society - Design Team Project Manager Apr. 2020 – Present**

*Robotic Arm with 3D Scanner Team and Immersive Sleep Team*

* Creating a motion system with a 3D scanning end-attachment to generate high-quality scans of body parts.
* Leading a team of 5 students to learn and apply Computer Vision, ML, and robotic movement towards this goal.
* Led a team of 10 students to engineer a novel device to improve general sleep quality and flag indicators of sleep-related diseases and disorders by monitoring physiological parameters (heart rate, blood oxygenation, movement).

**ENGINEERING PROJECTS**

**Application Server Herd with Google Places API Proxy Mar. 2021 – Jun. 2021**

* Implemented an agile, parallelizable Places proxy service through a collection of connected application servers.
  + Lightweight servers asynchronously handle requests and propagate client data via a flooding algorithm.
* Analyzed the practicality of using a Python approach vs. a Java approach based on maintainability and compatibility.

**Examining Use of Convolutional Neural Networks in Universal Accelerators Mar. 2021 – Jun. 2021**

* Extended on ACT Lab’s work on using Neural Networks to replace and accelerate “approximable” code workloads.
* Simulated the energy, time, and accuracy costs of using modern NN architectures, especially various CNN designs, on a SOTA CNN accelerator simulator. Comparatively evaluated on JPEG, FFT, and Sobel benchmarks.

**AFFILIATIONS**

* **Biomedical Engineering Society***,* *Design Team Project Manager, Design Team Member.* **Sept. 2018 – Present**
* **UCLA DevX***, BruinBot Hardware Team Member.* **Oct. 2020 – Jun 2021**
* **Institute of Electrical and Electronics Engineers (IEEE)***, Open Project Space Member.* **Sept. 2019 – Jun 2020**

**INTERESTS**

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