William Chong

williamchong@ucla.edu ❖ linkedin.com/in/williamchong256 ❖ github.com/williamchong256

EDUCATION

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

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

CS

Algorithms and Complexity
Programming Languages
Bioinformatics
Operating Systems
Compiler Construction
Computer Security
Computer Networking
Computer Architecture

AI/ML

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