

Kevin Chang

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Education

University of California, Los Angeles (UCLA)

June 2028

B.S. in Electrical Engineering | GPA: 3.9 | Dean's Honor List

Distinctions

MakeMIT x Harvard - 2nd Place

2026

- Won 2nd place at MakeMIT x Harvard's entertainment track (6 tracks total), the largest hardware hackathon in the US at the time with 400+ participants.
- Collaborated with a team to engineer a high-speed volumetric display that generated 3D voxel-based visuals using persistence of vision by rotating an LED matrix at several hundred RPM.

Github x Hack Club Hardware Hackathon - 1st Place

2025

- Won 1st out of 160 participants at Undercity, the world's largest teen hardware hackathon hosted by Github and Hack Club. Built an automatic toilet paper folder that dispenses and folds toilet paper using 2 stepper motors.

Projects

"Tactile Web Browser: A Modular 2D Tactile Interface for Spatial Web Navigation."

Sole Author. Published in IEEE Xplore and presented at the 2026 International Midwest Symposium on Circuits and Systems.

- Developed a modular 2D tactile interface that converts webpage layouts into physical spatial representations, enabling blind users to perceive webpage structure beyond the 1D limitations of traditional screen readers. Reduced cost by 37 times, from existing \$15k+ multi-line refreshable Braille displays to ~\$400.
- Designed scalable 3×6 bistable-solenoid modules forming 12×6 and other custom tactile arrays, distinct raised keycap configurations (Tetris-like shapes) encode different HTML elements (links, buttons, headers) for rapid spatial recognition.
- Engineered a distributed embedded architecture integrating TB6612FNG drivers, 74HC595 SPI expanders, keyboard matrices, Arduino Nano controllers, I2C communication, and a protected 180W power system.
- Developed a web-to-tactile rendering pipeline via a Chrome extension that parses the DOM and streams element data over serial to the physical array.

Additional projects: <https://www.changchang.me/portfolio.html>

Experience

Merazine - Electrical Engineering Intern

2026 March - July

- Designed and iterated a production-ready ESP32-S3 consumer electronics PCB for a fashion e-commerce startup (250k+ users, \$1M raised), integrating USB-C power/data, Li-ion battery management, Wi-Fi/BLE connectivity, I2S audio, MEMS microphone input, SPI flash/SD storage, and manufacturability considerations while validating hardware bring-up, peripheral integration, and prototype testing for a 100-unit pilot manufacturing run.
- Validated end-to-end embedded audio and connectivity pipelines, including SD card storage, I2S microphone/speaker subsystems, Wi-Fi communication, BLE provisioning, and ESP32-S3 firmware integration for cloud-based voice processing workflows.

UCLA Emergence of Communication Lab - PCB Design Intern

2026 Jan - June

- Collaborated with a team of 4 to design NSF-funded wearable infant sensing prototypes capturing synchronized audiovisual data to study early speech development.
- Helped develop a 4-layer PCB and debug ESP-IDF firmware integrating ESP32-S3 with OV2640 camera, ICS-43434 mics, OLED display, and transduction microphones for synchronized real-time audiovisual logging to SD over 4-bit SDMMC, including battery-safe buck/boost power design and RTOS-based peripheral coordination.

Eta Kappa Nu - Tutor

2026 March - June

- Inducted member of Eta Kappa Nu (HKN), UCLA's ECE honor society for top Junior/Senior undergrads; tutored students in Differential Equations, Electrical Engineering, Data Structures and Algorithms, and Electromagnetics.

Skills

Hardware: PCB Design, Embedded Systems, ESP32/ESP-IDF, Digital Electronics, SPI/I2C/I2S, Power Management, Hardware Bring-up, SMT Soldering

Programming: C++/C, Python, Java, R, HTML/CSS

Tools: Kicad, EasyEDA, Fusion360, Onshape, MuJoCo, Robosuite