Jaythan Dao

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Education

University of California, Berkeley *Expected Graduation*: May 2026
3.5 GPA - Electrical Engineering and Computer Science (EECS) Berkeley, CA
Coursework: Advanced Computer Architecture, Data Structures, Structure & Interpretation of Computer Programs, Intro to Circuits & Devices, Foundations of Signals, Intro to Computer Architecture, Discrete Math, Engineering Physics
Languages: Python, C/C++, RISC-V Assembly, Java, SQL, JavaScript, HTML/CSS
Skills: Microcontrollers, Soldering, PCB, Oscilloscope, Multimeter, Waveform Generators, Spice simulation

Experience

EECS Undergraduate Researcher Jan. 2025 – Present
UC Berkeley - Biomimetic Millisystems Lab Berkeley, CA
- Created schematic and routed a 2-Layer PCB with 180+ components for testing of an endonasal surgical robot.
- Reduced PCB unit cost by 12%, size by 10%, optimized to free 13 GPIO pins for more scaling and functionality.
- Integrated buck converters, DACs/ADCs, safety killswitches, use of solenoids, motors, pressure regulators/sensors.
- Wrote STM32 firmware for test protocols across varying profiles, supported USB, I2C, and SPI communication.
- Physically assembled PCB, tested with multimeter and oscilloscopes, verified design through circuit simulation.

Technical Wireless Intern May 2024 – July 2024
UL Solutions Fremont, CA
- Utilized Python scripts and operated robotic equipment to evaluate wireless transmission of client electronics.
- Tested to uphold FCC/ICC standards; ensured compliance by analyzing data and running checks on SAR liquids.
- Recorded absorption rates and RF maps using DASY6, callbox on wireless protocols (5G NR, LTE, and 802.11).
- Led technical testing during peak season working 45% extra overtime executing 16+ tests/day on wireless units.

Director of Class EE 198 Aug. 2023 – Dec. 2024
IEEE Student Branch @ UC Berkeley Berkeley, CA
- Director of a UC Berkeley accredited electronics class with over 50 students as the 6th largest EE class in school.
- Designed and ran a 10-week curriculum for students to build an autonomous maze-solving 'micromouse' robot.
- Developed teaching vehicle and PCB fit for latest industry standard tech, optimized and scalable to $15 per car.
- Implemented 7 unique labs teaching programming and algorithms such as flood-fill, wall-following, and DFS/BFS.

Engineering Researcher Nov. 2019 – July 2022
Independent San Jose, CA
- Multi-award-winning and sponsored researcher; 5th Place at statewide California Science and Engineering Fair.
- 2x 1st Award in the Physical Science and Engineering Category at the Synopsys Science Fair Championship.
- 2021-22: Created an IoT clip-on Arduino smart water meter to upload residential water usage data, promoting conservation. Designed custom 2-layer PCB, multi-year battery life, uploads data via SMS and Twilio webhooks.
- 2020: Created an electro-pneumatic hand tool to provide assistance and reduce injury for shipping workers.

Programs: Visa Upskill Tech Cohort, Theta Tau Engineer Fraternity (Professional Dev. Chair), Cisco Extern

Projects

Handwriting Classification in RISC-V | *RISC-V* Sept. 2024 – Oct. 2024
- Developed a neural network from scratch in RISC-V to classify handwritten digit images from MNIST database.
- Wrote base code for machine learning algorithms such as ReLU, matrix multiplication, argmax, and dot products.

Snake Game | *C* Aug 2024 – Sept. 2024
- Developed Snake game with dynamic memory management, multi-object collision detection, state management.
- Utilized memory debugging with GDB/Valgrind, comprehensive unit testing, binary program compilation/linking.
- Implemented file I/O system for saving/loading states, handling variable-sized boards with error detection.

Build Your Own World (Game) | *Java, JUnit* Apr. 2024 – May 2024
- Developed an interactive keyboard-based game with a randomized world generation algorithm for all seed values.
- Game features include line of sight toggle, on-hover tile displays, world aesthetic modes, and reload/save process.
- Using object-oriented design, implemented heaps/priority queues, DSA, and Java libraries (STDdraw, JUnit).

Brewista | *C++, Arduino, DC Motors, CAD* Feb. 2024 – Apr. 2024
- Developed an automated soda machine using Arduino to control four peristaltic pumps in a custom-designed box.
- Managed a team of 10 students; spearheaded project as lead project designer and lead electrical engineer.