Viviana Tran

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EDUCATION

University of California, Berkeley - *August 2022 to May 2026* | **GPA**: 3.86/4.0

B.S. Electrical Engineering and Computer Science

Relevant Coursework: Programming for Engineers (MATLAB), Data Structure & Algorithms (Java), Designing Information Devices & Systems I/II (Circuit Design), Computer Architecture (C)

EDUCATIONAL AND LEADERSHIP EXPERIENCE

Computer Science Researcher for ECG Analysis Riverside, California

Cal Baptist University - *May 2024 to Present*

- Developed open-source single-threaded and multi-threaded CNN from scratch to bring accessibility to ECG analysis.
- Conducting and analyzing epochs, training time, and testing time for three trials of sequential and hardware-threaded CNN algorithms on randomly generated ECG signals varying in CPU load. Resulting in an ~½ standard deviation.

Frontend Technology Mentor Berkeley, California

Berkeley Computer Science Mentors - *December 2023 to Present*

- Created a custom student output table with TypeScript xml and CSS to showcase filtered input. Coordinating with 2 backend developers and 2 other frontend developers, to create custom React components that interact with the backend database.

Senior Mentor, EECS 16A Berkeley, California

Berkeley Computer Science Mentors - *August 2023 to Present*

- Guiding 8 students through UC Berkeley EECS 16A curriculum- including basic circuit design, linear algebra, statistics, signal processing - by presenting mini-lectures, creating one-page topical summaries, and exposing students to reliable outside resources, resulting in 95% satisfaction rate and content confidence from students
- Created question banks and content summary slides for in-person exam review sessions to host to 150+ students

Work Experience

Code Coach Berkeley & Corona, California

The Coder School - *January 2024 to Present*

- Guiding students aged 7-15, 3 times a week in 1:2 or 1:6 peer to student ratio to code, debug, and develop personalized

SKILLS

- **Electrical Engineering** - Circuit Analysis, RLC Filtering, Op-Amps, DAC & ADC Converters, Soldering, Test and Measurement Equipment (oscilloscopes, multimeters)
- **Languages/ Tools** - Java, Python, C, RISC-V, MATLAB, Scheme, SQL, HTML, CSS, React, Git/Github

PROJECTS

- **CPU from Scratch** - *March 2024:* Designed 5-step data-pathway in Logisim, integrating boolean logic, multiplexers, and ROM for ALU, control logic, PC selector, and immediate generator. Sped operations by 2x with 2-stage pipeline.
- **Voice-Controlled Car** - *August 2023 to December 2023:* Derived algorithm to classify speech patterns into 4 actions with 83% accuracy, utilizing Arduino Leonardo, PCA, SVD, and mic board. Designed low-pass filter, motor, encoder, and mic circuits on breadboard to utilize PWM signals from classification for car movement.