Viviana Tran

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EDUCATION

University of California Berkeley — May 2026
Bachelor of Science, Electrical Engineering and Computer Science — GPA 3.86
Relevant Coursework: Programming for Engineers (MATLAB), Data Structures (Java), Structure and Interpretations of Programs (Python), Computer Architecture (C) , Computer Security (GO), Intro to AI, Efficient Algorithms

CERTIFICATIONS

Sutardja Center for Entrepreneurship & Technology Certification — August 2022
- Crafted pitch for wellness app, with 5 person team, through data-collection, consulting with VC's, and applying venture fundamentals like market research, competitive analysis, and public speaking. Secured 2nd place in track.

RELEVANT EXPERIENCE

Computer Science Mentors, Berkeley, CA — May 2024 - Present
Communications Chair
- Processing and analyzing recruitment data using excel and Jupyter Notebook for 300+ written and behavioral applications increasing communication efficiency within the organization.

Cal Baptist Research on ECG Analysis, Riverside, CA — May 2024 - Present
Computer Science Researcher
- Compiling 20+ papers into literature review of common ECG analysis algorithms. Developed open-source single-threaded and multi-threaded CNN from scratch to bring accessibility to ECG analysis.
- Testing algorithm through epoch, training, and analysis across three trials of sequential and hardware-threaded CNN on randomly generated ECG signals varying in CPU load. ~½ decrease in standard deviation.

Computer Science Mentors, Berkeley, CA — December 2023 - May 2024
Frontend Technology Mentor
- Designed custom coordinator UI via Figma, integrated student filtering and mass drops for 300+ members.
- Created custom student output table with TypeScript xml and CSS to showcase filtered input. Coordinating with 2 backend and 2 frontend developers, to create custom components that interact with backend databases

WORK EXPERIENCE & LEADERSHIP

theCoderSchool, Berkeley, CA & Corona, CA — January 2024 - Present
CodeCoach
- Guiding 15+ students aged 7-15, to code, debug, and develop personalized games in Scratch, Python, and Java.

PROJECTS

- **Convolution of Matrices Speed Up** - *April 2024:* Created naive algorithm in C for 2D convolution and integrated SIMD, open MPI, open MP, and arithmetic shortcuts to parallelize algorithm, resulted in 9x speed-up from original algorithm.
- **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.
- **Build Your Own World** - *November 2023:* Developed randomly generated maze board class in Java. Implemented minimum spanning tree algorithms, .txt save, and hash-map to respond to avatar movement or game replays.

SKILLS

- **Software Development** - OOP, Dynamic Programming, Data Structures, Memory Management, Parallel Programming
- **Languages/ Tools** - Java, Python, C, RISC-V, MATLAB, Scheme, SQL, JS, HTML, CSS, React, Git/Github