Viviana Tran

tranviviana@berkeley.edu | (909)-438-0001 |linkedin.com/in/viviana-tran | github.com/tranviviana

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 Structures and Algorithms (Java), Structure and Interpretations of Programs (Python), Computer Architecture (C), Discrete Math and Probability

EDUCATIONAL AND LEADERSHIP EXPERIENCE

Computer Science Researcher for ECG Analysis Riverside, California

Cal Baptist University - *May 2024 to Present*

- 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.
- 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 May 2024*

- Designed custom coordinator UI via Figma, integrated student filtering and mass drops for use by 300+ club members.
- Created custom student output table with TypeScript xml and CSS to showcase filtered input. Coordinating with 2 backend developers and 2 frontend developers, to create custom React components that interact with backend databases.

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 - 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 15+ students aged 7-15, to code, debug, and develop personalized games in Scratch, Python, and Java.

SKILLS

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

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.