JASON TRINH

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EDUCATION

University of California, Berkeley (GPA: 4.0) Berkeley, CA

Bachelor of Science in Electrical Engineering & Computer Science (EECS) ***(Expected May 2027)***

EXPERIENCE

Network Engineer Intern, *Verizon* **June – August 2025**

- Created **machine learning models** with **Python** to classify mislabeled network location codes
- Identified **~100,000 mislabeled sites** a dataset of 450,000 records with an **accuracy of 99.99%**
- Queried **network address** data with **SQL** to identify key features for model implementation
- Leveraged **artificial intelligence** to provide insights on various approaches to prediction models

Firmware Developer, *Formula Electric at Berkeley* **Jan 2025 – Present**

- Designed a **battery state machine** to monitor accumulator charge and circuit output
- Write and test **firmware** on **microcontrollers** for device communication and hardware validation

Machine Learning Assistant, *University of California, San Francisco* **June – August 2024**

- Utilized machine learning to classify **craniectomy outcome** for stroke patients using **EMR data**
- Utilized **pandas** and **matplotlib** to preprocess and visualize datasets
- Implemented **random forest classifier** and **decision trees** using **scikit-learn**
- Incorporated **recursive feature elimination** and **class rebalancing** to improve model predictions

Quantum Physics Research Intern, *University of California, Davis* **July – August 2023**

- Constructed a **scanning electron microscope** to tunnel electrons through copper samples
- Measured **electron activity** through various structures to **image atomic surfaces**
- Computationally **visualized electron behavior** in a **lattice structure** using linear algebra, Python, & C

PROJECTS

AI Multiverse **October 2025**

- Built a **real-time 3D multiplayer voice chat** game in **Godot** with interactive **AI characters**
- Integrated live **speech-to-text** via **Python-WebSocket** connection for instant player audio transcription
- Designed a **conversation manager** with **AI turn-taking**, smart **interruption control**, and **queued TTS playback**

Lights Off **April 2025**

- Designed a **2D tile-based exploration game** with various obstacles and objectives
- Created an algorithm to implement **random world generation** given a user-input seed
- Created an **A* path-finding algorithm** for an entity to track down player every game step
- Developed a **GUI** in which the player can move, interact, and use abilities within the environment

RISC-V CPU **July 2025**

- Engineered a **5-stage pipelined CPU simulator** supporting **RISC-V** instructions (add, lw, beq, jal, etc.)
- Designed a complete **instruction fetch–writeback datapath** with simulated **memory** and **register file**
- Achieved **instruction-level parallelism** through **data forwarding**, **hazard detection**, and **stall logic**

Speech Classifier **November 2024**

- Performed **DFT spectrogram analysis** to separate and identify frequencies in over 200 recordings
- Achieved **95% accuracy** identifying words via **principal component analysis** and **nearest neighbors classification**

SKILLS

Awards: AIME Qualifier, National Merit Finalist
Languages: Python, Java, C, SQL, RISC-V Assembly
Libraries: pandas, NumPy, Matplotlib, Scikit-learn, seaborn, cvxpy, PyTorch, TensorFlow
Relevant Coursework: Deep Learning, Probability & Random Processes, Optimization, Data Structures, Computer Architecture, Signals & Systems
Skills: Linux OS, Databases, Git, Algorithms, Testing/Debugging, HTML/CSS, API Integration, Backend Infrastructure