Jason Tang

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Education

University of California, Berkeley GPA: 3.96
Bachelor of Science in Electrical Engineering & Computer Science *Expected May 2027*

Experience

UC Berkeley Electrical Engineering & Computer Science Aug 2025 – Present
Lab Teaching Assistant *Berkeley, CA*

- Support 200+ students with circuit analysis, WaveForms, and LTSpice through office hours and an online forum
- Host weekly lab sections for 40+ students, guiding hands-on circuit construction and use of instrumentation tools
- Help develop weekly prelab and lab assignments, adjusting course content for clarity of explanations

UC Berkeley Computer Science Mentors Jan 2025 – Present
Senior Mentor *Berkeley, CA*

- Supported 800+ students with data structures and algorithms in Java through small group discussion sections
- Created and delivered explanations, examples, and exercises on topics such as asymptotics, LLRBs, and sorting
- Earned an average teaching rating of 4.67/5.00 from feedback forms regarding helpfulness, pacing, etc

UC Berkeley Operations and Behavioral Analytics Lab Jan 2025 – May 2025
Undergraduate Research Assistant *Berkeley, CA*

- Conducted research in human-AI interaction to investigate non-compliance with artificial intelligence
- Discussed findings with students and professor in close discussions, resulting in an exploration of new directions for potential research and existing gaps of knowledge

UC Berkeley Engineers and Mentors Aug 2024 – Dec 2024
Primary School Mentor *Berkeley, CA*

- Taught Title 1 elementary students foundational STEM concepts such as human bone anatomy and physics forces (drag, thrust, lift, gravity) through creative demonstrations and hands-on activities
- Designed interactive lesson plans and experiments to engage students and spark early interests in science

Projects

Pintos Operating System | *C, x86* Aug 2025 – Present

- Built and extended core components of an OS to support user programs, file operations, and virtual memory
- Implemented multithreading support and synchronization primitives (locks, semaphores, condition variables)
- Utilized GDB extensively to trace low-level kernel execution, inspect memory, and uncover subtle concurrency and synchronization bugs, demonstrating strong debugging and systems-level problem-solving skills

Aidoku | *Xcode, Swift, SwiftUI, UIKit* Aug 2025 – Present

- Contributed to an open-source iOS, iPadOS, and macOS manga reading app
- Implemented bugfixes for app GUI and proper user authentication with FaceID/TouchID, leading to a smoother and more secure app experience

Secure File Sharing System | *Go* Jun 2025 – Aug 2025

- Designed a secure file sharing scheme with login, file storage, and file sharing functionality
- Utilized PBKDFs, symmetric, and public-key cryptography to encrypt, sign, and verify data
- Analyzed RFC security standards to confirm proper protocol usage and compliance with established practices
- Implemented with Go and golang/crypto library and wrote 2000+ lines of code to test said implementation for confidentiality, integrity, and authenticity of information, earning top 5 scoring design in a class of 140

Three Stage Pipelined RISC-V CPU | *Verilog* Aug 2025 – Present

- Built a three-stage pipelined RISC-V CPU in Verilog with support for R/I/S/B/U/J and CSR instruction types
- Implemented a register file, branch comparator, memory system, and control logic to enable full CPU functionality
- Added pipelining and hazard detection, increasing throughput and reducing stalls to improve performance

Technical Skills

Languages: C, x86, RISC-V, Go, Rust, Swift, Verilog, Java, Python, SQL, JavaScript, HTML/CSS, Lisp (Scheme)
Developer Tools & Frameworks: GDB, Docker, Makefile, Valgrind, DVE, WaveForms, LTSpice, SwiftUI, UIKit
Libraries: NumPy, Matplotlib, crypto