# Jason Tang

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## Education

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

## Experience

**UC Berkeley Electrical Engineering & Computer Sciences** 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

**Five Stage Pipelined RISC-V CPU** | *Verilog, SystemVerilog* Aug 2025 – Present

- Built a five-stage pipelined RISC-V CPU in Verilog with support for CSR instructions in privileged architecture
- Added pipelining, hazard detection, and data forwarding to increase throughput and reduce stalls
- Incorporated SystemVerilog Assertions to verify correctness of design and proper functionality in design flow

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

- Built and extended core components of an OS to support process control, multithreading, and UNIX FFS
- 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

## Technical Skills

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