

# Brandon Wong

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## Education

### University of California, Berkeley

Expected May 2025

*Bachelor of Arts in Computer Science*

GPA: 4.0

- **Coursework:** Data Structures, Efficient Algorithms, Data Science, Linux Systems Administration, Linear Algebra, Computer Architecture, Design Methodologies
- **Honors:** HSF Scholar, Chin Scholar, Rosenhouse Scholar, Elks National Foundation Scholar, UPE

## Technical Skills

**Languages:** Java, Python, HTML/CSS/JS, Bash/Shell, Node, C++, Rust

**Libraries:** React, Express, NumPy, Pandas, PyTorch, JUnit Testing

**Tools:** Unix, Git, Google Colab, CMake, NeoVim, Visual Studio Code, LaTeX

## Work Experience

### UC Berkeley Data Science Department

Jan 23 – May 23

*Student Researcher (Exploring AI Art)*

- Conducted in-depth analysis of codebases, including Stable Diffusion, to explore and evaluate the ethical considerations and potential applications of emerging technologies in generative AI
- Explored the technical foundations of machine learning and artificial intelligence, including neural networks, backpropagation, and diffusion techniques

### UC Berkeley EECS Department

Jan 22 – May 22

*Academic Intern – Beauty and Joy of Computing (CS 10)*

- Facilitated weekly lab sessions of 20+ students and taught debugging techniques, providing support that allowed students to better debug projects independently
- Taught basic computing principles in Snap! and Python; topics included recursion, algorithmic complexity, OOP, etc

### Computer Science Mentors

Jan 23 – Present

*Junior Mentor – Discrete Math and Probability Theory (CS 70)*

- Volunteered to lead discussion sections of 6 students to supplement the course staff and learning material
- Prepared mini-lectures, problem walk-throughs, and midterm review sessions to improve students engagement with course material and test-taking abilities

### Pioneers In Engineering

Sep 22 – Present

*Electrical Engineer*

- Volunteered in the Fall Robotics Competition, promoting STEM education for 700+ students in 30+ under-served Bay Area high schools
- Designed the PCB for a keyboard macropad to learn the basics of KiCad circuit design software and soldering

## Projects

### Readable | JS, Node

Sep 22 – Dec 22

- Collaborated in a team of 5 to develop solutions for focus in digital reading through iterative design
- Implemented an interface to traverse a website's DOM, allowing for intuitive shifting of a blur viewport
- Conducted interviews with users to gain feedback on the UI/UX in order to formulate actionable improvements

### Gitlet | Java

Jul 22 – Jul 22

- Coded a mini recreation of Git version control system from scratch using various Data Structures with an emphasis on readable code and clear design documentation
- Implemented algorithms to optimize commands to improve time complexity per Big-O specification
- Utilized various Unix system tools to create additional bash scripts for testing

### I am Speed | C

Jul 22 – Jul 22

- Accelerate 2D convolutions with advanced optimization techniques, achieving a 9.6438x speedup on randomized matrices compared to the staff solution
- Coded in SIMD Intel Intrinsic and OpenMP multi-threading library to achieve data-level parallelism and thread-level parallelism optimizations
- Implemented a distributed memory model with the Open MPI library to compute 2D convolutions on multiple parallel processes