Brandon Wong

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Education

University of California, Berkeley — Berkeley, CA
Bachelor of Arts in Computer Science | GPA: 4.0 — *Expected Spring 2025*

Projects

Gitlet | *Java* — July 2022
- Mini recreation of Git version control system (13 Git commands); built from scratch using Java and various Data Structures with an emphasis on readable code and design; created additional bash scripts for testing.
- Uses serialization for persistence, utilizes algorithms to optimize commands for specified big O runtimes.

Build Your Own World | *Java* — July 2022
- A program that generates 2D playable worlds; built in Java using a modified version of a tile rendering engine.
- Uses data structures to generate pseudo-random worlds with similar structures and interactions.
- Uses serialization to persist world states and settings.

Scheme Interpreter | *Python* — April 2022
- Implemented the core features for a lisp interpreter in Python using a recursive descent parser and evaluator.
- Utilized significant understanding of lexical and syntactic analysis as well as input parsing.
- Implemented tail recursion through trampolining to optimize space complexity.

Pursuit Curves | *C++/SDL2* — December 2022
- A simple program to simulate and visualize the motions of two projectiles.
- Utilizes the SDL2 api for the engine to render points onto a Cartesian plane; implemented basic math for simulation (midpoint algorithm, trigonometry, basic physics).

Brandogn.com | *HTML/CSS/JS* — July – December 2022
- A light weight static website built with an emphasis of minimalistic code (40 lines JS, ∼130 lines CSS).
- Built with vanilla HTML/CSS/JS; uses some Node to output HTML to display all images in a folder.

Blog Roll | *JS/Node/Pug.js* — August – December 2022
- Scripted a pseudo build system that parses JSON into HTML files (creates navigation structure, and populates content into each individual page).
- Implemented a template system utilizing Pug.js (Jade.js) to eliminate redundancy and increase code readability.

Experience

UC Berkeley EECS Department — Berkeley, CA
Academic Intern — *January 2022 – May 2022*
- Facilitated and guided weekly lab sessions for CS 10, an intro CS class serving 150 students.
- Assisted students in learning problem solving and debugging skills, and fostered a welcoming environment in lab. (lab duties included: checkoffs, assisting in debugging code, answering conceptual questions)
- Taught basics of computing in Snap! and Python. (cs10.org: Recursion, Algorithmic Complexity, OOP, etc.)

Pioneers In Engineering — Berkeley, CA
Electrical Engineer — *September 2022 – Present*
- Participated in club meetings, volunteered in Fall Robotics Competition 2022 promoting STEM education for under-served Bay Area high school students; 700+ students in 30+ schools (pioneers.berkeley.edu)
- Designed the PCB for a keyboard macropad to learn the basics of KiCad circuit design software and soldering.
- Debugged hardware and oversaw hardware lending during the Fall 2022 Competition.

Technical Skills

PROGRAMMING: Java | Python | HTML/CSS/JS | Shell | Node | C++ | Scheme | Rust
FRAMEWORKS/LIBRARIES: JUnit Testing, React, NumPy, CMake
PLATFORMS: Linux/UNIX, Git, LaTeX, Intellij, Nvim, VSCode, Adobe Illustrator, Adobe Premier, FL Studio
COURSEWORK: Data Structures, Algorithms, Foundations of Data Science, Linux Systems Administration, Discrete Math, Probability Theory, Structure and Interpretation of Computer Programs