Calvin Li

(908) 938-8622 | cli2032@berkeley.edu | https://cli2032.github.io/

Objective

UC Berkeley Computer Science major seeking roles in backend software engineering and full-stack development. Quick to learn, passionate for applying programming to solve real-world problems, and proficient in working both alone and as part of a team.

Education

University of California, Berkeley — Berkeley, CA

Bachelor of Arts in Computer Science — *Aug. 2018 – December 2022*

- Cumulative GPA: 3.41/4.00
- Relevant Coursework: Data Structures, Great Ideas of Computer Architecture (Machine Structures), Discrete Mathematics and Probability Theory, Introduction to Software Engineering, Introduction to Artificial Intelligence, Computer Security

Projects

Multi-Agent Search for Pac-Man | *Python* — Spring 2021

- Developed AI agents for playing games of Pac-Man
- Implemented minimax, expectimax, and alpha-beta pruning search algorithms to dictate agent behaviors
- Designed evaluation functions for comparison of various game states

Rotten Potatoes! | *Ruby on Rails, Cucumber, Heroku, Git* — Fall 2020

- Built a website that allowed users to store and display information about films and movies using Ruby on Rails
- Used RESTful design to implement movie list and individual movie info pages
- Followed the model-view-controller architecture to organize application data
- Used Cucumber to write user stories and step definitions for testing site functionality, following BDD practices
- Deployed software online via Heroku

Custom Logisim CPU | *RISC-V, Logisim, Git* — Summer 2020

- Used Logisim to create a two-stage pipelined CPU capable of executing RISC-V instructions
- Implemented ALU, registers, memory, branch comparator, immediate generator, control logic and CPU datapath
- Ensured thorough testing coverage by adding a full suite of unit, integration, and edge case tests

Numc | *C, Python, Git* — Spring 2020

- Programmed a version of numpy using C to perform various mathematical operations on matrices
- Designed a Python-C interface that would allow for the embedding of Python code within C functions
- Utilized OpenMP and SIMD instructions in order to optimize code runtimes and improve performance

Build Your Own World | *Java, Git* — Spring 2019

- Developed a 2-D maze exploration game with pseudorandomly generated map layouts
- Wrote functions for displaying a GUI and defined custom map tilesets
- Utilized fundamental version control practices for Git through working extensively with a teammate

Technical Skills

Languages: Proficient: Java, Python | Experience in: C, OCaml, SQL (Postgres), Ruby, HTML, CSS, RISC-V
Frameworks: Rails, JUnit
Developer Tools: Git, Sublime Text, IntelliJ, Eclipse

Activities and Interests

Poker: Running and studying simulations of game theory optimal poker, analyzing PostgreSQL databases to exploit opponent tendencies, teaching courses on principles of statistics and game theory within No Limit Texas hold 'em poker
Pokémon Glitches: Analyzing glitches in the first two generations of Pokémon games to understand and exploit memory safety vulnerabilities, buffer and stack overflows, and lack of input sanitization
Ultimate Frisbee: Training for and competing in ultimate frisbee on competitive school and club teams in the San Francisco Bay Area and New Jersey