Richard Hu

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EDUCATION

UC BERKELEY

B.S. in Electrical Engineering and Computer Science
May 2022
College of Engineering
GPA: 3.88 / 4.0

COURSEWORK

BERKELEY

CS 170: Efficient Algorithms and Intractable Problems
CS 61B: Data Structures (A+)
EE 126: Probability and Random Processes
CS 188: Introduction to Artificial Intelligence
EECS 70: Discrete Mathematics and Probability Theory
MATH 53: Multivariable Calculus

OTHER

MATH 265: Linear Algebra
Machine Learning (certified by Coursera)

SKILLS

LANGUAGES

Advanced:

- Java
- Python
- LaTeX

Familiar:

- C++
- SQL

SOFTWARE

- Git
- Unix-like operating systems

OTHER

- Unit and integration testing
- Statistics and probability
- Machine learning

EXPERIENCE

BERKELEY EECS DEPARTMENT

Undergraduate Student Instructor - EECS 70
June 2020 – Present | Berkeley, CA

- Teaching discussion sections of 25 students twice a week to reinforce concepts introduced in lecture
- Holding office hours and attending staff meetings with instructors and other TA's weekly
- Creating official LaTeX documents for weekly homework assignments

PROJECTS

CHESS AI | June 2020 - Present

- Currently developing a Chess AI in Java that plays using a multi-threaded Monte Carlo tree search with a random rollout policy
- Implemented game logic and working on time and space optimizations to maximize the breadth and speed of Monte Carlo tree search
- Developed comprehensive unit tests to debug move legality criteria and board display

LINES OF ACTION | March 2020 - April 2020

- Implemented Lines of Action board game in Java playable via command line or GUI using AWT and Swing
- Optimized an alpha–beta pruning game tree search heuristic that won 2nd place in a class-wide tournament with over 450 entrants

SILAS | October 2019 - December 2019

- Created a linear algebra command line utility using `argparse` and NumPy
- Developed functionality for storing and retrieving matrices
- Wrote efficient algorithms that compute row reductions, inversions, and multiplication and display each step

HEX ROCKETS | September 2018 - January 2019

- Collaborated with one friend to develop and maintain a cross-platform mobile game teaching hexadecimal arithmetic
- Self-taught basic graphic design and a low-level Java mobile game development package libGDX
- Received over 140 installs across iOS and Android with primarily 5-star reviews and won the Congressional App Challenge