

Pedraam Nikzad

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Education

University of California, Berkeley,

Fall 2022

Bachelor of Arts, Computer Science and Integrative Biology

- GPA: 3.76

Relevant Coursework: **CS61BL: Data Structures**, **CS170: Efficient Algorithms and Intractable Problems**, CS61C: Machine Structures, CS61A: Structure and Interpretation of Computer Programs, CS70: Discrete Mathematics and Probability Theory, Math 54: Linear Algebra and Differential Equations

Skills

Languages: Proficient in Python and Java, Experienced in JavaScript, HTML/CSS, C, and C++

Frameworks: React and Pandas

Software/Tools: Git, Visual Studio Code, IntelliJ, and LaTeX

Projects

Star Worlds: Random World Generator, Java

Summer 2021

- Used a numerical seed to pseudo-randomly generate a world that must meet specific parameters.
- Gamified each world to have multiple win-loss conditions.
- Created an enemy AI that uses the **A* algorithm** to find nearest item.
- Programmed animated controllable actions that give a different on-screen text response based on outcome.
- Utilized **Java** and Princeton's Standard Draw library.

Gitlet, Java

Summer 2021

- Created a version control system that supports most of Git's functionalities. Including support for add, rm, commit, find, log, branch, reset, merge, and more.
- Utilized **Java** serialization and hashing to store files as blobs in order to minimize memory usage.
- Used UC Berkeley's Runner.py for unit testing.

Pedraam.org, JavaScript(React), HTML/CSS

Summer 2021

- Created a portfolio website for myself as a place to show off my projects as well as teach myself the React framework.
- Utilized the **React Spring** library for smooth animations and real physics.
- Utilized **Styled Components** library for CSS in order to maintain scalability with React components.

Chess with Minimax AI, Python

Spring 2021

- Built fully-functioning chess game in **Python** that obeys all the classical rules of chess.
- Implemented an AI with uses the Minimax algorithm with alpha-beta pruning to find optimal move.
- Utilized **PyGame** library for all rendering purposes.

Experience

Akhurst Lab at UCSF Medical Center, San Francisco, CA

Summer 2020

Research Assistant

Post-doc: Eswari Dodagatta-Marri, eswari.dodagatta@ucsf.edu

- Performed hands-on molecular biology assays, including Western Blots, protein purification, and PCR.
- Reorganized 1078 individual cell lines using **Pandas** to sort and transform data sourced from legacy excel files.
- Created new workflow for storing sensitive cell line samples at -80° C using **Pandas** to store storage data. Created **loc functions** in Pandas backend for faster pulling based on specified criteria.
- Mice handling; responsible for injections and tumor dimensional measurements. Created data objects for each individual mouse in **Pandas**.