Jiachen Yuan

jcyuan_johnson@berkeley.edu | +1 9257848397 | 2526 Durant Avenue, Berkeley, CA. 94704

EDUCATION

University of California, Berkeley **Berkeley, CA**

BA, Computer Science Expected May 2023

- Relevant coursework: Data Structures and Programming Methodology, Efficient Algorithms and Intractable Problems, Introduction to Artificial Intelligence, Designing Information Devices and Systems II, Discrete Mathematics and Probability Theory, The Structure and Interpretation of Computer Programs, Great Ideas of Computer Architecture, Optimization Models in Engineering, Web Design
- GPA: 3.925 / 4.000

PROFESSIONAL EXPERIENCE

Ronovo Surigcal Medical Science and Technology Ltd. **Shanghai, China**

Software Engineer Internship May 2021 – August 2021

- Built an automatic code generator tool for exposing C++ types and libraries for Python usage using pybind11 library;
- Created a bar chart visualizer using Open-source library Apache ECharts for terabyte-sized log information for quick error detection and information filtering involving both front end and back-end realization;
- Designed a time-efficient and space-saving hierarchical database storage structure for terabytes of data objects used in data distribution among devices; created an automatic Python tool for parsing topic data objects and inserting preprocessed information into MySQL database according to the pre-designed database schema;
- Collaborated with system infrastructure, software engineering, hardware, and operation teams to facilitate an agreed scheme of managing demands and tasks on a DevOps platform and implemented a Python tool to extract information from existed offline unorganized documents to upload to the platform.

PROJECT EXPERIENCE

Path Finder Apr. 2021

- Led and organized a team of 4 to attack an intractable computing problem. Designed and implemented in C++ a combined algorithm using both randomized hill climbing and simulated annealing to find the longest possible path in a complex graph involving >100 nodes given fixed budget constraints for node and edge removal.
- Achieved an algorithm performance ranked 31th out of 183 teams.

Pac-Man Game with AI Feb.-Apr. 2021

- Built and defined the game world objects and physics for the Pac-Man game using Unity Engine, which could be played with different game levels and modes.
- Established autonomous Pac-Man and Ghosts agents to locate themselves and decide the best routes to obtain their own goals with the use of AI searching algorithm, logical inference, and deep learning in the simulated Pac-Man world.

Gitlet Jul.-Aug. 2020

- Designed and implemented a file storage structure and naming convention to support git operations using Java.
- Built an offline version of Git tool using Java; Completed a CLI tool to support git commands including init, add, commit, checkout, log, branch, merge, etc; Also built a Minimum Viable Product (MVP) version of user interface with the help of Java Swing framework.

Scheme Language Interpreter Mar.-Apr. 2020

- Investigated and explored the basic concepts of interpreters and compilers. Implemented a python-based interpreter to interpret Scheme codes and produce the accurate runtime outputs.

SKILLS

- **Programming Languages:** HTML, CSS, JavaScript, jQuery, Python, Java, C++, Scheme,
- **Frameworks & Tools:** Python Flask, Docker, Git, Java Swing, Bootstrap, Microsoft Office
- **Databases:** MySQL

INTEREST

Photography, road trip, guitar, ukulele, web design