Ryan Whitty

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EDUCATION

University of California, Berkeley **Berkeley, CA**
Bachelor of Arts, Computer Science - GPA: 4.00/4.00 *August 2021 - May 2025*

- **Relevant Coursework:** Algorithms, Machine Learning, Data Structures, Computer Architecture, Probability and Random Processes, Program Structures, Foundations of Data Science, Discrete Math
- **Honors:** Upsilon Pi Epsilon (CS honor society), Dean's List, National Merit Scholarship

EXPERIENCE

Roche Diagnostics **Santa Clara, CA**
Software Engineer Intern *May 2023 - August 2023*

- Wrote data processing and validation scripts for essential gene sequencing steps in Python, Groovy, and Gherkin, playing a pivotal role in improving system reliability by diagnosing multiple critical defects
- Used Jenkins and shell scripts to automate and optimize end-to-end software development workflows, significantly reducing risks associated with and time spent on routine tasks

UC Berkeley EECS Department **Berkeley, CA**
Tutor (Algorithms) *August 2023 - Present*

- Responsibilities will include assisting students with algorithms problem sets in office hours, answering questions in online Q&A, and proctoring exams for Berkeley's upper-division algorithms course

Academic Intern (Data Structures) *January 2023 - May 2023*

- Helped facilitate weekly lab sections by guiding students in coding and debugging extensive projects
- Explained foundational data structures, Java, and software engineering topics to dozens of peers

UC Berkeley Haas School of Business **Berkeley, CA**
Student Researcher *January 2023 - May 2023*

- Worked under professor David Levine, conducting research on innovative approaches to public health
- Contributed to the design and enhancement of a web engine for virtual games promoting good hygiene

Brain Inflammation Collaborative **Remote**
Data Analyst Intern *May 2022 - August 2022*

- Developed data analysis frameworks for future studies in Python using NumPy, Pandas, and SciPy
- Built and streamlined data pipelines from patient data entry to interactive visualization and reporting

SKILLS

Programming Languages: Python, Java, C/C++, JavaScript, Groovy, R, HTML, CSS, Bash
Tools and Frameworks: Git, Unix, Pandas, NumPy, PyTorch, Jenkins, Gherkin, Pytest, Jira

PROJECTS

File Compressor *July 2023*

- Wrote an application in C++ using multithreading that losslessly compresses files to <2/3 their original size and decompresses them into their original format, working on 100+ MB files in a matter of seconds

Monopoly Simulator *June 2023*

- Programmed a Python Monopoly game complete with all Monopoly's features, then simulated millions of turns on the board to analyze which properties are statistically the most popular and profitable

Wordle Solver *May 2023*

- Built an interactive web-app using HTML, CSS and JavaScript that uses principles of probability and information theory to optimally solve Wordle puzzles, considerably outperforming human players