Ryan Whitty

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EDUCATION

University of California, Berkeley **Berkeley, CA**
Bachelor of Arts, Computer Science - GPA: 4.0/4.0 *August 2021 - May 2025*

- **Relevant Coursework:** Algorithms, Machine Learning, Data Structures, Computer Architecture, Probability and Random Processes, Structure and Interpretation of Computer Programs, Foundations of Data Science, Advanced Programming in R, Discrete Math, Multivariable Calculus, Linear Algebra
- **Honors:** Upsilon Pi Epsilon (CS honor society), Dean's List, National Merit Scholarship

EXPERIENCE

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

- Developed Python software to efficiently process and validate 10+ GB gene sequencing datasets, playing a pivotal role in improving system reliability by diagnosing critical software and hardware defects
- Used Jenkins and Bash scripts to automate and optimize end-to-end algorithm verification workflows, resulting in risk reduction and time savings of up to 80% for routine software development tasks
- Aggregated gene sequencer performance metrics and test suite results into a clean, employee-friendly interface using Gherkin and Cucumber, now referenced internally by multiple engineering teams

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

- Held office hours for Berkeley's 750-student upper-division algorithms class to assist students with rigorous assignments and concepts (e.g. dynamic programming, graph algorithms, complexity theory)
- Worked with professors to write, debug, and grade exams, ensuring a positive student experience

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

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

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

- Created statistical analysis frameworks for future studies in Python using NumPy, Pandas, and SciPy
- Built and streamlined data pipelines encompassing patient data entry, storage, and eventual reporting, ultimately being used in research by multiple medical institutions (including Stanford University)
- Designed interactive data visualizations for use by patients, clinicians, and researchers in Data Studio

SKILLS

Programming Languages: Python, Java, C, C++, JavaScript, SQL, Groovy, R, HTML, CSS, RISC-V
Tools and Frameworks: Git, Linux, Windows, Jenkins, NumPy, Pandas, PyTorch, Gherkin, PyTest, Jira

PROJECTS

File Compressor *July 2023 - August 2023*

- Wrote a command-line C++ application that losslessly compresses files to <2/3 their original size and decompresses them into their original format, operating on 100+ MB files in a matter of seconds
- Utilized native multithreading to achieve a 200% speedup over non-parallel implementations

Hygiene Heroes *January 2023 - May 2023*

- Designed and developed a web platform using JavaScript, HTML, and CSS for health workers in disadvantaged communities to create exercises aimed at improving children's health and hygiene
- Worked as part of Professor David Levine's interdisciplinary research group in Berkeley's Haas School of Business, with partners located in several different universities and countries across the world