

Ayati Sharma

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EDUCATION

University of California, Berkeley

GPA: 3.85

B.A. Computer Science, B.A. Cognitive Science

May 2025

- **Honors:** EECS Honors Program: Concentration in Computational Neuroscience, Upsilon Pi Epsilon (CS Honor Society), Junior Researcher at The New York Academy of Sciences, Honors to Date Fall '22 & Spring '22
- **Courses:** Database Systems, Data Structures & Algorithms, Engineering Optimization, Data Science, Computer Architecture, Full Stack Development, Multivariable Calculus, Linear Algebra, Discrete Math & Probability Theory, Circuit Design & Theory, Linguistic Science, Molecular Therapeutics

EXPERIENCE

Berkeley Speech Group at Berkeley Artificial Intelligence Research (BAIR)

Berkeley, CA

Undergraduate CS Research Assistant

August 2023 - Present

- Developing machine learning algorithms for spoken language assistive technology

iSono Health

South San Francisco, CA

ML/Software Engineering Intern

May 2023 - Aug 2023

- Building Flask + Dash-based web application for breast imaging annotation. Developing API to interface with DVC data registry and medical imaging tools. Designing and developing software to parse through & map patient database information. Developing machine learning triage models for breast cancer risk classification.

UC Berkeley EECS Department

Berkeley, CA

Head Teaching Assistant, TA, Tutor, Academic Intern – CS 61B: Data Structures & Algorithms Jan 2022 – Present

- Organizing course logistics through heading exam creation, managing proctoring and grading, intern recruitment, content evaluation, lecture and student support. Conducting weekly office hours & forum for debugging & conceptual issues, leading small-group tutoring, directing review sessions for class of 1700+ students

The Conboy Lab at Berkeley Engineering

Berkeley, CA

Software Development Intern

March 2023 - Present

- Developing a data processing pipeline to conduct health assay analysis regarding aging. Working under Cameron Kato and Dr. Irina Conboy.

Computer Science Mentors

Berkeley, CA

Senior Mentor - Data Structures and Algorithms

August 2022 – Present

- Leading weekly tutoring and review sessions of 4-5 students with minilectures and problem-based worksheets. Concepts taught include asymptotic analysis, data structures, sorting and search algorithms. Teaching the women's affinity section. Advising junior mentors on pedagogical techniques weekly through direct feedback, leading structured workshops, section shadowing. Organizing and conducting exam-review sessions for 1700+ students.

PROJECTS

CheRMiT (Machine Learning Research in Computational Biology at Berkeley iGEM)

Jan 2022 - Present

- Collaborating to develop a natural language processing pipeline that extracts chemical reaction data from scientific literature using few-shot learning on GPT and validates reactions through cheminformatics.

Gitlet

April 2022

- Developed a version-control system in Java. Utilized cryptographic hashing, file persistence, regex, optimised data structures, and graph traversals.

Enigma

February 2022

- Developed a digital version of the Enigma encryption machine using object-oriented design, file I/O, string manipulation enabling encryption/decryption of messages with various possible initial configurations of the machine.

PUBLICATIONS

Common Genetic Signatures of Alzheimer's in People with Down syndrome

July 2019 – Nov 2020

- Paper accepted and presented at the Federation of European Neuroscience Societies (FENS) Forum 2020. Co-authored as a genomics and data science research assistant to Dr. Anna Delprato & Dr. Wim E. Crusio. [\[Paper\]](#)

SKILLS

Languages: Python, Java, C, SQL, PostgreSQL, JavaScript, RISC-V, HTML/CSS, Scheme

Tools & Frameworks: Git, DVC, Docker, Airflow, Unix, MongoDB, Dash, Flask, Bootstrap, React Native, Pandas, NumPy, Plotly, scikit-image, scikit-learn, ITK-Snap, Figma