

ELIZABETH GILSON

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Work Experience

Environmental Protection Agency (EPA)

Durham, NC

Toxicity Data Scientist

Nov 2024 – May 2025

- Processed, cleaned, and analyzed large datasets using **Python**, **R**, and **SQL** to ensure accuracy
- Created interactive dashboards and visualizations in Python (using pandas, matplotlib, and seaborn) to communicate insights to scientists, program managers, and cross-functional teams
- Developed and maintained automated data pipelines to integrate new assay data into existing datasets
- Conducted statistical analyses on cytotoxicity burst assay data for over 4,500 unique chemicals, identifying key trends that informed EPA's toxicity modeling and decision-making

UC Berkeley

Berkeley, CA

Lecturer

May 2025 - Present

- Teach data science and scientific computing to graduate students, including Python, C++, and algorithm implementation for large-scale data analysis
- Mentor students in data visualization, debugging, and optimization, strengthening their ability to draw insights from complex datasets
- Develop course materials, including programming labs and case studies focused on real-world applications of computational data analysis

Merck

Berkeley, CA

Graduate Capstone Project

Jan 2024 – Jun 2024

- Designed and fine-tuned an LLM pipeline for scientific literature analysis using PyTorch and Gemma, automating ingestion and preprocessing of thousands of research articles
- Queried and managed structured datasets with **SQL**, ensuring data quality for model training and validation
- Delivered final report and visual summaries of findings to Merck mentors, translating technical results into actionable insights for future research

Research Experience

Chavkin Lab – UW Pharmacology

Seattle, WA

Research Intern

Jun 2021 – Jan 2023

- Conducted in vitro signaling experiments and analyzed data with Excel and R, preparing reports for lab meetings and the 2022 Undergraduate Research Symposium

NIDA Summer Internship – Harvard Medical School

Belmont, MA

Research Intern

Jun 2022 – Aug 2022

- Researched genetic risk factors for cocaine addiction by analyzing chemical and genetic data
- Presented project findings at the 2022 NIDA Summer Research Internship Program Project Showcase

Technical Skills

Technical Tools: Python, C++, R, SQL, PyTorch, TensorFlow, matplotlib, NumPy, GitHub, Git

Data Analysis: Data processing, data visualization, statistical modeling, machine learning

Collaboration: Cross-functional team collaboration, technical presentations, documentation

Education

University of California, Berkeley

Berkeley, CA

M.S. Molecular Science and Software Engineering

May 2024

University of Washington

Seattle, WA

B.S. Biochemistry (Departmental Honors), Minor in Applied Math

Jun 2023

Additional information available on my website: lizzie-gilson1.github.io/