

ADIT SHAH

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SUMMARY UC Berkeley undergraduate studying EECS (Electrical Engineering and Computer Sciences) and Business. Seeking opportunities in software development or applied machine learning for Summer 2024.

SKILLS **Programming/Software:** Python, Java, Kotlin, Julia, MATLAB, HTML/CSS, Linux, Git, Docker, Kubernetes, AWS, GCP, Azure
Machine Learning & Robotics: Neural Networks, Reinforcement Learning, Meta-Learning, PyTorch, TensorFlow, Keras, NumPy, SciPy, Matplotlib, OpenCV, Baselines, ROS, gRPC

EDUCATION

2021-2025 **University of California, Berkeley** (GPA: 3.97)
Dual Degree: B.S. Electrical Engineering & Computer Science/B.S. Business Administration
Awards: Regents' & Chancellor's Scholar, Dean's List (College of Engineering, Haas School of Business)
Courses: Probability and Random Processes, Optimization Models in Engineering, Artificial Intelligence, Operating Systems, Computer Architecture, Discrete Mathematics, Multivariable Calculus, Financial Accounting, Macroeconomics

EXPERIENCE

Jan 2022 - Aug 2023 **Berkeley Undergraduate Intelligence Research (BAIR)**, Berkeley, CA
Undergraduate Student Researcher, Berkeley Speech Group (advised by Prof. Gopala Anumanchipalli)

- Research on applying machine learning to the fields of neuroscience and human speech.
- Developing a speech neuroprosthesis to enable communication for paralyzed individuals who have lost the ability to move and speak.

May 2023 - Aug 2023 **École Polytechnique Fédérale de Lausanne (EPFL)**, Lausanne, Switzerland
Visiting Research Fellow

- Selected as a Summer@EPFL research fellow (<1.5% acceptance rate), where I conducted research at the Machine Learning for Biomedical Discovery Laboratory (advised by Professor Maria Brbic).
- Created a modular software platform for benchmarking few-shot learning algorithms for single-cell biology, which enable machine learning models to transfer to novel contexts with small amounts of data.
- Implemented end-to-end pipelines for evaluating methods on four datasets from real-world biomedical settings, including predicting the performance of cancer drugs for individual patients' tumors, and predicting whether a novel strain of bacteria will display antibiotic resistance.

Jan 2022 - Aug 2023 **Berkeley Undergraduate Intelligence Research (BAIR)**, Berkeley, CA
Undergraduate Student Researcher, [CIRCLES Consortium](#) (advised by Prof. Alexandre Bayen)

- Research at the intersection of AI, climate, and transportation to mitigate "phantom" traffic jams on highways that cause large amounts of wasted time, energy, and carbon emissions.
- Developed a machine learning algorithm for autonomous vehicles that mitigates traffic jams, improving vehicle flow on highways and reducing carbon emissions by >10%.
- Utilizing deep reinforcement learning with policy gradient methods (Proximal Policy Optimization).
- Successfully deployed algorithm to 100 vehicles on a live freeway in Nashville, TN in the [largest-ever open-track traffic experiment](#) (Nov. 2022).
- Co-first author publication accepted at the International Conference on Intelligent Transportation Systems, 2023.

ACTIVITIES & INITIATIVES

Jan 2023 - Present **Electrical Engineering and Computer Sciences, UC Berkeley**
CS61B (Data Structures) Undergraduate Student Instructor

- Lead my own discussion and lab sections to teach concepts such as object-oriented programming, asymptotic analysis, hashing, sorting, and graph algorithms.
- Host office hours, grade student assignments/exams, and develop course projects for a 2000-student course.

Aug 2022 - Present **Neurotech @ Berkeley**
Software Lead & Machine Learning Developer

- Fall 2023: Leading the software division of the Neurotech@Berkeley student organization. The division consists of ~30 Berkeley students working on numerous projects related to software, machine learning, and neuroscience.
- Spring 2023: Software design and machine learning for a gaze-tracking computer interface system. Detects and analyzes electrical potentials in the eye to enable users to control devices without needing a camera.
- Fall 2022: Developing machine learning algorithms that analyze real-time EEG (brainwave) data to make highly individualized music predictions based on factors such as mood and focus state. Work done as a consulting project for a neurotechnology startup.