# Yajat Yadav

## PERSONAL INFORMATION


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|---|---|
| Email | yajatyadav@berkeley.edu |
| Website | https://yajatyadav.com |
| Google Scholar | Yajat Yadav |
| Github | yajatyadav |
| Linkedin | yajatyadav |


## EDUCATION

**UC Berkeley** 2022 – 2026
*Bacheolor of Science, Electrical Engineering and Computer Sciences*

- GPA: **4.0** / 4.0; Eta Kappa Nu (EECS Honor Society), Machine Learning @ Berkeley, Neurotech @ Berkeley
- Researching robot learning, advised by Prof. Sergey Levine
- Selected EECS Coursework (**A+ in bold**, Grad classes underlined): Computer Vision, Learning Theory, Deep RL (audit), **Machine Learning**, **Optimization Methods**, Computational Photography, **Combinatorial Algorithms**, **Signal Processing**, **Controls**, **Operating Systems**, **Computer Architecture**
- Selected Math Coursework (**A+ in bold**): **Probability and Random Processes**, Abstract Algebra, **Abstract Linear Algebra**, **Discrete Math**, **Multivariable Calculus**

## PUBLICATIONS AND PREPRINTS

**Agent-Based Modeling for Patient-Centered Clinical Decision Support in Neuro-oncology** 2024
Eduardo Rodrigueaz ALmaraz, Brenda Miao, **Yajat Yadav**, J de Groot, J Young, A Vo, A Butte, B S Mitchel, D Raleigh, N Butowski, Ahmed Alaa
*Neuro-Oncology, Volume 26*

**VROOM: Visual Reconstruction over Onboard Multiview** 2025
**Yajat Yadav***, Varun Bharadwaj*, Tanish Baranwal*, Jathin Korrapati*
*Preprint, Class Project*

**ONG:Orthogonal Natural Gradient Descent** 2025
**Yajat Yadav***, Jathin Korrapati*, Patrick Mendoza*
*Preprint, Class Project*

## ACADEMIC EXPERIENCE

**RAIL, UC Berkeley** Aug 2024 - present
*Undergrad Researcher*

- Working with Prof. Sergey Levine on robot learning and foundation models.
- Researching generalizable finetuning techniques to robustly extend robot foundation models to unseen tasks.

- Experimented with self-distillation, scaling test-time compute, and reasoning models for planning long-horizon robotics tasks.

**Center for Computational Biology, UC Berkeley** Jan 2024 - Jul 2024
*Undergrad Researcher*

- Worked with Prof. Yun Song on utilizing deep learning in various genomics tasks.
- Developed a multimodal deep net utilizing DNA sequence, structure, and taxonomy information to predict plasmids' origins of transfer.
- Designed a machine-learning based approach for choosing DNA primers to serve in HIV genome selective amplification experiments.
- Collaborated with biologists to experimentally validate predicted plasmid sites.

**Computational Precision Health, UCSF** Jan 2023 - Dec 2023
*Undergrad Researcher*

- Worked with Prof. Ahmed Alaa on NLP for clinical-decision-making in oncology.
- Utilized domain-specific LLM agents to simulate clinical decision-making scenarios in neurooncology diagnosis, management, and treatment.
- Integrated insights from tumor board data to refine the natural language models.
- Worked with several independent UCSF clinicians to incorporate domain knowledge and validate model performance in real clinical settings.

**Ley Lab, La Jolla Institute for Immunology** Jun 2021 - Nov 2021
*High School Researcher*

- Researched immune cell migration to inflammation sites.
- Analyzed gene expression data from millions of cells, as well as clinical data from 15+ hospitals, to identify predictive features of immune cell mobility.

## INDUSTRY EXPERIENCE

**Amazon Web Services** May 2024 - Aug 2024
*Software Engineering Intern*

- Developed AWS service for efficient propagation of AWS Orgs information through thousands of worldwide servers.
- Created a client-side library and algorithm for dynamically adjusting network requests, helping reduce 84% of timeout errors.
- Optimized service performance with distributed load testing, ensuring the service was robust to millions of requests/sec.

**Borde. Inc.** May 2024 - Aug 2024
*Machine Learning Engineering Intern*

- A company working on ML-based, high-volume inspection and sorting of various crops.
- Implemented object detection CV models for real-time classification of various crops during machine processing (100+ unit/s).
- Coded a full-stack, websocket-based web app for streamlining the end-to-end process of labeling crop samples for sorting, configuring model training, and deploying/monitoring models at edge devices across 10+ farms.

## TEACHING

**Teaching Assistant** Spring 2025
*EECS 126: Probability and Random Processes, UC Berkeley*

**Tutor + Reader** Fall 2024, Spring 2024
*EE 120: Signals and Systems, UC Berkeley*

**Academic Intern** Fall 2023, Summer 2023
*CS 70: Discrete Math and Probability Theory, UC Berkeley*

**Academic Intern** Summer 2023
*CS 61B: Data Structures, UC Berkeley*

**Academic Intern** Spring 2023
*CS 61A: Structure & Interpretation of Computer Programs, UC Berkeley*

## PROJECTS

**Wetware Computing** Spring 24
*Neurotech @ Berkeley*

- Reproducing the DishBrain experiment by culturing neurons and using reinforcement learning with electrical stimulation to teach them simple games like Pong.
- Wrote programs for encoding/decoding electrical signals and interfacing with an OpenAI Gym environment, enabling bidirectional communication with the neurons.

**Clarity Dashboard** Spring 23
*Neurotech @ Berkeley*

- Developed a React app for neurotechnology company Clarity. Features include secure storage of sensitive information, patient dashboard and live EEG session analytics.

**Neural Focus Drviving** Fall 22
*Neurotech @ Berkeley*

- Utilized Brainflow and MNE libraries to process raw EEG data in order to compute a running focus metric used to drive a RC car just by thinking.

## HONORS AND AWARDS

**EECS Evergreen Undergraduate Research Award** 2025

**EECS Evergreen Undergraduate Research Award** 2024

**Dean's List (4 semesters)** 2022 - 2024

**Eta Kappa Nu EECS Honor Society** 2022

**Top 8 in Nation, USA Biology Olympiad** 2020

**Top 50 in Nation, USA Biology Olympiad** 2021

**Gold Medal, British Biology Olympiad** 2021, 2020

**Gold Medal, iGEM (Intl. Genetically Engineered Machine) Research Competition** 2020

## SERVICE

**Eta Kappa Nu** Fall 2025

*Department Relations Head*

- Providing department tours to prospective high schoolers interested in UC Berkeley EECS.
- Working with the EECS department to host town halls, infosessions, & advising hours.

**Eta Kappa Nu** Spring 2025, Fall 2024, Spring 2024, Fall 2023

*Professional Development Officer*

- Organized events like grad school panel, company infosession, etc. to connect the EECS community with professional opportunities.
- Provided career-related services like reviewing resumes, conducting mock interviews, and connecting students with industry mentors.

## SKILLS

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| *Languages* | Python, Java, C++, C, Rust, Ruby, TypeScript, MATLAB, R, HTML/CSS, Bash, SQL, RISC-V, x86 |
| *Machine Learning* | Jax/Flax, PyTorch, Tensorflow, OpenCV, SciPy, Hugging Face, Weights & Biases |
| *Web Development* | Reactt, Express.js, Django, Spring, JUnit, Mockito, Ruby on Rails |
| *Dev Tools* | Docker, Azure, AWS (EC2, S3, Lambda, CloudWatch), GitLab, Kubernetes, PostgreSQL, Berkeley DB |