Yajat Yadav

PERSONAL INFORMATION

Email	✉ yajatyadav@berkeley.edu
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Google Scholar	📓 Yajat Yadav
Github	⭘ yajatyadav
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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: Computer Vision, Learning Theory, Deep RL, Machine Learning, Optimization Methods, Combinatorial Algorithms, Computational Photography, Signal Processing, Controls, Operating Systems, Computer Architecture

- Selected Math Coursework: 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

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