Rishi Tikare Yang

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EDUCATION

University of California, Berkeley — Berkeley, CA
B.A. in Computer Science - GPA: 3.8/4.0 — *Class of 2024*

- Machine Learning, Photovoltaic Devices, Probability and Information Theory, Optimization, Robotics, Algorithms, Discrete Math, Data Structures, Computer Architecture, Design of Computer Programs.

Universidad Nacional Autónoma de México — Mexico City
Computer Science and Latin American Studies - GPA 9.0/10.0 — *Fall 2022*

- Databases, Anthropology of Afro-Americans, Global Systems, Geography in Latin America

Albuquerque High — Albuquerque, NM
GPA 4.7, ranked 5th in class of 347 — *Class of 2020*

- National Merit Scholar, Varsity Cross Country Captain

EXPERIENCE

Modeling an Optical Computer for Image Classification — Sandia National Labs
Physics Modeling, Unsupervised ML, CUDA, PyTorch — *Summer 2023*

- Developed a model of a photonic computer to classify images of material science data
- Integrated GPU optimizations using pytorch and CUDA
- Worked with an international team of research scientists and graduate students, gave an oral presentation, and wrote a scientific-paper style report

Outreach Head for STEM Mentorship Club — UC Berkeley Club, BEAM
Leadership, Communication, Committee Head, Site Leader — *August 2020–May 2024*

- Education club at UC Berkeley focused on inspiring interest in STEM fields and providing accessible science lessons to our local community by teaching weekly science lessons
- Lead the Outreach committee responsible for organizing volunteer events and socials
- Also lead a group of 4-5 college students every semester to teach weekly science lesson

CalSol - Solar Car Team Member — UC Berkeley Club
Electrical Team, PCD design, Firmware — *Spring 2023*

- Engineering club to design, build, test, and race fully solar-powered vehicles.
- Electrical team works on battery management systems, telemetry, motor controller, sensors and data collection, and miscellaneous electrical components
- Design PCBs in KiCad, write firmware for microcontrollers, write software for data collection, integrate components onto the car

University Immunology Laboratory Intern — UNM Health Sciences
Computational Biology, Computer Vision, Live Mouse Model — *Summer 2019*

- Studied the effect of lactic acid on the motility of T-cells under Professor Judy L. Cannon
- Worked both in the lab to isolate and cultivate T-cells in a sterile fume hood, and collect images with a fluorescent microscope.
- Worked on software program to quantify motility of cells using computer vision techniques

PROJECTS

Robotic Interaction with Object Centric Environment — Class EECS 106a
Robotic Control, Computer Vision, Unsupervised Learning, — *Fall 2023*

- ❖ Working with a PhD student for her research on unsupervised, object-centric computer vision and robotic control.
- ❖ We developed a robot that could adaptively model the environment from a moving camera, and used an inverse kinematic controller to pick and place blocks
- ❖ https://vint-1.github.io/eecs106a-website/

Conv Neural Network for CIFAR-10 - Class Project — Class CS189
Machine Learning, CNN, Classification, PyTorch — *Spring 2024*

- ❖ Designed, built, tuned and validated a CNN that classified the CIFAR-10 dataset with %77.4
- ❖ Build a CNN package from scratch in python for educational purposes

Linear Algebra Software Package in C - Class Project — Class CS 61c
Cache Management, Data and Instruction Parallel Programing — *Spring 2022*

- ❖ Optimized dense matrix multiplication through memory management and parallel programming in C using OpenMP
- ❖ Achieved speedups of ~300x when compared to naive approaches

Voice Controlled Car - Class Project — Class EECS 16b
Classification, Control, Feedback, Signal processing — *Summer 2021*

- ❖ Built a voice controlled car using a microcontroller, breadboard, and other components
- ❖ Designed circuits, used feedback in the steering control, and machine learning in the control and voice recognition parts of the robot

RISC-V CPU - Class Project — Class CS 61c
Cache Management, Data and Instruction Parallel Programing — *Spring 2022*

- ❖ blksjflajflskfs

Godot Video Game - Personal Project *github.com/rishikiram/Easternly-Apps* — Self Led
UI/UX, Physics Engine — *Summer 2021*

- ❖ Created an endless, side scrolling video game including all of the art, a physics model and procedural generation. Used various open source software, namely the Godot engine.
- ❖ Designed the UI with minimalist ideas focused on interactive learning

Gitlet - Class Project — Class CS 61b
Search and Sort Algorithms, Source Code Control, Software Engineering — *Fall 2021*

- ❖ Built version control system modeled after Git to track and commit file changes, revert to older saved versions, and create and merge branches of code
- ❖ Implemented search and sort algorithms as well and functional data structures

Traffic Model - Science Fair Project — Supercomputing Challenge
Agent Based Modeling, Data Analysis, Optimization — *2018-2019 School year*

- ❖ Created an agent-based Traffic Model to study efficiency, collected and visualized data, and presented it to a panel of judges.
- ❖ Won 3rd place and a cash prize of $500.

REFERENCES - **Contact info upon request**

1. Dr. Prasad Iyer - Metasurface & Optics, Senior Member of Technical Staff at Sandia National Labs
2. Kaylene Stocking - PhD Student in EECS, Robotics focused researcher in Hybrid Systems Lab at Berkeley
3. Dr. Judy Cannon - Prof. of Immunology at UNM, Infectious Disease, & Computational Immunology

SKILL AND INTERESTS

Programming Languages - Python, Java, C, RISC-V, HTML, SQL, Scheme
Interpersonal - Leadership, Teamwork, Communication skills. Fluent in English and Spanish
Interests - Sports, Outdoors Activities, Piano, Cooking, Origami, Learning Languages

OBJECTIVE

I am a recent graduate from UC Berkeley with a bachelor's degree in Computer Science, specializing in machine learning, math, robotics, and green energy. I am looking for my first job and I want to be in a position where I am learning, where I gain quality experience and to where I can form my future career goals such as pursuing graduate school, entrepreneurship or industry career. I am interested in a variety of roles, and in particular roles involving software, data science, math and engineering. I am also most interested in living in the Bay Area, and would love to work towards helping people and the environment in the green energy or sustainable technology field.