Rishi Tikare Yang

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EDUCATION

University of California, Berkeley — Berkeley, CA
Bachelor of Arts in Computer Science - GPA: 3.8/4.0 — *Class of 2024*

- Probability and Information Theory, Optimization, Algorithms, Robotics, 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

Summer Undergraduate Laboratory Internship (SULI) — Sandia National Labs
Modeling an Optical Computer for Image Classification — *Summer 2023*

- DOE funded program to do a summer research project with a national laboratory
- 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–Present*

- 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, and responsible for creating an inclusive environment for mentors.
- As school site leader, lead a group of 4-5 college students every semester to teach weekly science lesson

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

- Study the effect of lactic acid on the motility of T-cells under Professor Judy L. Cannon
- Work both in the lab to isolate, cultivate, and film T-cell samples, and on a software program to quantify motility using computer vision techniques

PROJECTS

Robot in Object-Centric Environment for Unsupervised Learning — Class EECS 106a
UR5 arm, Robotic Control, Computer Vision, Unsupervised Deep Learning — *Fall 2023*

- Built a robotic system that sorts blocks, with goal destinations that are discovered through interaction with the environment
- Implemented classical computer vision techniques of color sorting and depth perception, and inverse kinematic trajectory planning
- Started implementation of unsupervised representation learning algorithms through unsupervised object-centric representation

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

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

- ❖ Designed a complete CPU on a virtual circuit design software for the RISC-V instruction set
- ❖ Included a 2-Stage pipeline and the associated data hazard infrastructure

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

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

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 and code. Used various open source software, namely the Godot engine.
- ❖ Implemented a custom physics model and a random procedural generation algorithm
- ❖ Designed the UI with minimalist ideas focused on interactive learning

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.

INTERESTS

Interpersonal - Leadership, Teamwork, Communication skills. Fluent in English and Spanish
Interests - Sports, Outdoors Activities, Piano, Cooking, Origami, Learning Languages