

RIJUL GARG

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Education

Junior, Class of 2025, Arcadia High School
GPA: 4.00 (Unweighted)

Projects

Caltech (Prof. Lulu Qian)
Summer Research Intern
June - Aug 2024

Collaborated with a partner to improve weight activation in DNA-based supervised learning neural networks by 50%+. Analyzed Python NUPACK binding matrices, simulated reaction pathways in Mathematica, & tested solution in wet labs.

Caltech (Prof. Lulu Qian)
Motif Design Intern
Aug 2024 - Present

Collaborating with a PhD student on his research on unsupervised learning neural networks in DNA systems, which will upgrade the capabilities of DNA-based networks. Designing a novel weight normalization motif for such networks.

UC Davis (Dr. Felipe Godinez)
Research Intern
March 2024 - Present

Extracted 300+ features from tumor MRIs using PyRadiomics & parallel computing. Cleansed, explored, & visualized big data. Applied ML models, achieving 90%+ accuracy. Working with Dr. Godinez & UCLA Prof. Michele Guindani on paper.

HomeFarm
Ideator / Designer / Developer
Jan - Dec 2023

Ideated, designed, and developed full-stack Android application (Android Studio, Kotlin, Firebase, Git) that allows users to share surplus home produce with neighbors. Users post excess produce; other users directly message to express interest.

SmartFlush
Ideator / Designer / Builder
Jan 2024 - Present

Ideated & designed automatic toilet lid closer to help improve sanitation when flushing toilets. Simulated Arduino circuits & code for lid closer and toilet flusher using Tinkercad software. Implemented in a working prototype.

Big Data @ UC Berk. Bootcamp
Student
Sep - Nov 2023

Learned fundamentals of data science and various statistical concepts. Acquired hands-on experience with Python libraries. Built a KNN classifier to predict whether a patient has diabetes using Deepnote.

Volunteer Experience

HTHF Youth Association
Co-Founder & President
Jan 2023 - Present

Lead a team of 40+ youth volunteers, coordinating impactful community service initiatives. Conducted 50+ events (cultural events, community service, classes, etc.) totalling 400+ volunteer hours and \$10000+ raised to date.

USC Arcadia Hospital
Rehab Unit Volunteer Leader
Sep 2022 - Present

Manage a team of 10 volunteers responsible for stocking supplies, responding to call lights, discharging patients, assisting nurses, and offering comfort visits. Organize weekly activities such as movie and game nights for long term patients.

AHS Peer Tutoring
Tutor
Sep 2021 - Present

Tutored 50+ peers in various subjects, ranging from STEM to humanities. Enhances my understanding of topics and teaches me compassion. Led to paid tutoring opportunities outside of AHS.

Kode4Kids
Re-Founder & President
Mar 2023 - Present

Lead a team of instructors that teach Scratch and Java to students in grades 1-8. Network with other schools to expand Kode4Kids's availability to more students. Learn more here: sites.google.com/view/kode4kids24

Work Experience

Private Tutor
Aug 2023- Present

Tutor students in various subjects including AP Chemistry, AP Calculus AB/BC, APCSP, and APCSA

Kumon Instructor
Sep - Dec 2021

Taught and assisted students with both their math and English work. Ages ranged from K-12. Helped grade work.

Activities

Indian Club (VP)
Code Club (Treasurer)
Science Bowl
Constitution Team

Honors

ACS Chemistry Olympiad
- Top 20 in SoCal region
PSAT/NMSQT
- Commended Scholar
AP Scholar with Distinction
National Honor Society
CA Scholarship Federation

Skills

Python, Kotlin, XML, HTML, CSS, Wolfram, C++, Jupyter, Deepnote, PyRadiomics, NUPACK, Docker, Android Studio, Firebase, Mathematica, Arduino, Tinkercad, Git/Github, UMAP/t-SNE/PCA, Parallel Computing, Soldering, Micropipetting, Gel Electrophoresis