



SURAJ ANAND

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OBJECTIVE

A college experience that builds upon my passion for computer science/data science, esp. as it applies to healthcare delivery, while broadening my interest in humanities.

A program that teaches real-world skills while exploring the essential questions of *how* and *why*.

SKILLS

- Machine Learning
- Statistics and R
- Command Line Tools for Genomic Data Science
- Proficient in Java, Java FX, Python, Bash, Octave, Matlab, SQL
- sales and communication skills
- some computer networking knowledge

EDUCATION

Palos Verdes Peninsula High School, Graduating 2020

- Current 10-12 GPA: 5.00 weighted, 4.00 unweighted
- AP Computer Science A, Advanced Computer Science, AP Statistics, AP Physics C, AP Calculus BC, AP Biology, AP Chemistry

RESEARCH EXPERIENCE

June 2019-August 2019

Kaiser Permanente Innovation Studio

Data Science Internship at Kaiser Healthcare Innovation Studio: Developed creative and innovative digital technology solutions to problems in healthcare. With the assistance of physicians and data scientists, investigated patient anomaly detection and diagnosis prediction, working on projects including outlier identification, diagnosis embeddings, skin cancer classification, and diabetes patient forecasting.

June 2018-Present

Research with Dr. Drew Clausen: Created text and face de-identification software currently utilized at Kaiser Permanente. Now working on lung cancer nodule identification and pneumonia risk studies by deploying multiple Convolutional Networks and Boosted Gradient Trees.

June 2018-Present

UC Irvine

Template Construction and Relaxed Skin Tension Lines Generation for Skin Grafts: Mobile App for generating facial skin tension lines on pictures of patients using a Convolutional Neural Network for facial landmark detection, interpolation, and weighted averaging. Web implementation of the algorithm at self-developed website orstencil.com for planning plastic surgery. **Patent and Paper in process*

November 2017-April 2018

SmarterHearing: An Artificial-Intelligence Based Intelligent Hearing Aid System: Employed a variation of Google's Wavenet in addition to hardware beamforming on Raspberry Pi to separate speech from babble and machine noise, thereby improving hearing aid technology.

June 2017-August 2017

USC Information Sciences Institute

Research Project with Dr. Alefiya Hussain: Utilized Natural Language Processing Techniques to build a Wifi network analysis chatbot to examine traffic and report suspicious network behavior and updates.

Oct 2016-Mar 2017

LA Biomed

Internship with Dr. Kent Taylor: Learned various Biostatistics Tools including IGV Genome Browser, SAM Tools for manipulating DNA and Protein sequencing data, Genome Analysis Toolkit (GATK) and D3 visualization library in Java for large data structures.

LEADERSHIP/VOLUNTEERING/WORK

- Science Olympiad President—organize and lead events
- Math Team Vice President—organize and lead events
- Board Member of Technology Students Association Events

- Led Peninsula Montessori Elementary Computer Classroom Learning as Volunteer
- Volunteer Lead Instructor of the Ridgcrest Middle School Science Olympiad Program (earned 5th place at LA Region Science Olympiad and competed at State Level)
- Volunteer at Medical Clinic for Homeless Patients that provides free Medical Care

- Work as cashier in family ARCO Gas Station

AWARDS

- ***Machine Learning Ensemble Model for Improved Personalized Lung Cancer Risk Assessment and Malignant Nodule Detection:*** 2nd Place California State Science Fair Computational Systems; 1st Place LA County and Palos Verdes District Science Fair 2019, Computer Science Category; U.S. Naval Science Award for Excellence in Sciences, Yale Science and Engineering Award
- ***SmartHearing: An Artificial Intelligence Beamforming Hearing Aid System:*** 1st Place Palos Verdes District Science Fair 2018, Computer Science Category; Winner of Intel Award for Excellence in Computer Science
- ***Conserved Regions of Coagulation Factors III , VIII, and XII's Percent, Location, and Function in Diverse Species:*** 1st Place Overall for Los Angeles Regional Science Fair Junior Division. Broadcom Masters Semifinalist.
- American Society of Plastic Surgeons: Best Paper and Presentation award for Langer Line algorithm and Graft Template app exhibited in ***A Novel Mobile Application for Surgical Planning*** (co-developer)
- American Chemistry Society Southern California National Olympiad Qualifier Part One—Multiple Choice, 3rd Place
- 1st Place in Anatomy and Physiology for LA Regional Science Olympiad

- Two-Time AIME (American Invitational Mathematics Exam) Qualifier, National Top 5% on the American Mathematics Competition (AMC) 12
- Mu Alpha Theta Log1 International Math Competition: Individual 5th place 2018
- Rocket City Math League: Individual 15th place Apollo Division (International Competition)