Saket Pathak

San Jose, CA
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High school junior passionate about using technology advancements for social good.

RESEARCH EXPERIENCE

University of California, Santa Cruz — *Machine Learning Researcher*

07/2023 - PRESENT

The UCSC IRKM Lab works on information retrieval and knowledge management research, focusing on innovative solutions for organizing and extracting insights from large datasets.

Creating an LLM-based virtual Android assistant for healthcare information retrieval under Prof. Yi Zhang.

Assist in data collection and cleaning by creating Python scripts for web extraction of useful data for generating accurate medical information.

Also working on a publishable manuscript to be presented at a 2025 research conference.

California State Summer School for Mathematics & Science (COSMOS), San Cruz, CA — *Artificial Intelligence Researcher*

07/ 2023 - 07/2023

Accepted into the UCSC COSMOS Al Cluster (5% acceptance rate for Freshman); attended artificial intelligence lectures from top faculty members and worked on exciting AI assignments.

Developed research project: A Low-Cost Approach to Seafloor 3D Modeling based on Monocular Vision via Deep Learning.

Presented my research to UCSC faculty at a poster presentation symposium

Aspiring Scholars Directed Research Program (ASDRP), Fremont CA — *Machine Learning + Drug Discovery Researcher*

08/2022 - 06/2023

Researched under Prof. Rob Downing the intersection between Machine Learning and Drug Discovery to figure out if Al can automate the chemical production process. Facilitated data collection through the creation of Thin-layer Chromatography (TLC) samples and applied clustering algorithms and deep learning models to optimize image analysis.

SKILLS

Python, JAVA, HTML/CSS

AI/ML: Deep learning, predictive modeling, statistical analysis, NLP

Management, Leadership, Decison-Making, Public Speaking, Communication

AWARDS

ISEF (alternate) winner CSEF qualifier

Diana Award recipient

NFTE national qualifier, West regional winner

WSI top qualifier

MTF top qualifier

Congressional App Challenge 3rd Place

FBLA National 4th Place Winner

AAU Taekwondo National 3rd Place Winner

INDEPENDENT RESEARCH

GlucoGaze: A Risk Prediction Tool for miRNAs as Novel Biomarkers for Type 2 Diabetes Mellitus (T2DM) and Linked Diseases

https://ca-csef.zfairs.com/app/showcase?f=838e60b7-ea75-46e8-865c-fde4864244b3

11/2023 – Present

GlucoGaze is a risk prediction tool to help understand the link between T2DM and the associated disease brain hemorrhage.

Used miRNA and genomic data to find associations between different miRNAs and a T2DM target gene, Insulin receptor substrate 1 (IRS1)

Used predictive approaches such as machine learning and regression models to find the future probabilities of T2DM and brain hemorrhage

Actively working on a research manuscript to be published; and presented at the 2024 Synopsys Science and Engineering Fair. Won 1st top category award in the Biomedical category and proceeded to CSEF. Also won an alternate award for ISEF.

Deep Learning Approach to Early Detection of Rheumatoid Arthritis (Accepted in IEEE – https://doi.org/10.31224/3284)

10/2023 – 03/2024

Developed a streamlined and efficient diagnostic tool for Rheumatoid arthritis, speeding up the diagnosis process.

Attained 99.48% accuracy in classifying between two datasets of patient hands. Designed and implemented a Convolutional Neural Network (CNN) architecture using TensorFlow.

Manuscript documenting full research process and findings accepted at the 2024 IEEE Integrated STEM Education Conference (Published IEEE Xplore)

VENTURES

INCLUSIFYIQ –A Multimodal Application for Measuring Cognitive Biases in Organizations (https://inclusifyiq.com/)

04/2023 – Present

Currently developing InclusifyIQ, a platform to address behavioral parity in organizations through comprehensive cognitive bias detection tools using computer vision, deep learning, and NLP models. Also used the same technology to understand mental health scores for teens. Backed by Xartup and Microsoft Founders Hub through $350,000+ technical credits and $3,000 seed funding from NFTE. Actively working with a team to initiate our pilot program in multiple schools and companies.

LEARNING QUEST – A nonprofit initiative for providing accessible education to all (www.learningquestglobal.org)

01/2022 – Present

Founded Learning Quest after witnessing the disparity of proper educational supplies for underprivileged kids around the world. Donated over 10,000+ books, STEM supplies impacting 20,000+ children in 5 different countries. Built a platform to connect rural schools with potential donors.

EDUCATION

Silver Creek High School, '26

Notable coursework:

- AP Statistics
- AP Chemistry
- Introduction to Business
- Biology1

Dual enrollment college courses:

- PreCalculus + Trigonometry
- JAVA Programming
- Finite Mathematics
- Data Structures and Algorithms

Activities and Clubs:

- Founder and President of AI Club,
- Member of Neuroscience club

OTHER COURSES

- Artificial intelligence Coursera certification by Andrew Ng
- Python certification

HOBBIES

- Taekwondo – 2nd Dan black belt
- Writing