

# SAKIN KIRTI

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## OBJECTIVE

To work as a problem-solver at the intersection of the life sciences and data science. I am a naturally curious problem solver and enjoy building and deploying solutions to difficult problems.

## EDUCATION

**Case Western Reserve University, Cleveland, OH | BA Computer Science – Graduation – May 2023**

GPA – 3.79/4.0, Deans High Honors (all semesters), High Achieving Sophomore Award

**Relevant Computer Science Coursework** – Database Systems, Deep Learning, Machine Learning, Structured and Unstructured Data, Probabilistic Graphical Models, Computational Perception, Software Engineering

**Relevant Healthcare and Life Sciences Coursework** – Microbiology, Development and Physiology, Organic Chemistry I & II, Biochemistry, Fundamentals of Global Health, Epidemiology, Illegal Drugs and Society, Engineering and Global Health

## EXPERIENCE

**Beckman Scholar | Arnold and Mabel Beckman Foundation & Atit Lab (Fibrosis Computational Biology Research)**

11/2019 – PRESENT

- Received \$20,000 grant as a freshman (~60 awarded nationally per year) to pursue computational biology research.
- Predicted dermal fibrosis with 84% accuracy with both a convolutional neural network and using radiomics.
- Lead monthly lab meetings of basic data science techniques, performed wet lab work, and statistical analyses.

**AI Researcher | Center for Computational Imaging and Personalized Diagnostics (Artificial Intelligence and Cancer Research)**

01/2022 – 10/2022

- Built neural networks using PyTorch to deepen understanding of racial biases in prostate cancer diagnosis.
- Developed activation maps to observe the image areas that the networks were using for diagnosis.
- Utilized CWRU's High Performance Computing core to carry out project

**Data Science Intern | Surgo Ventures (Healthcare Analytics)**

06/2022 – 09/2022

- Built multilevel regression models in R to predict usage and satisfaction of the 'Rides for Moms' program.
- Improved accuracy of maternal vulnerability index by 15% by drawing geographic insights from hospital-level data.
- Contributed to Causal ML python package through synthetic data generation with heterogenous treatment effects.

**Data Science Intern | Edifice Analytics (Green Energy Analytics)**

09/2021 – 12/2021

- Improved predictive model performance by 7% by generating new features and performing feature imputation in R.
- Sped up data ingestion and cleaning pipeline by 30% by incorporating Apache Spark with the Hadoop Database.

## SKILLS

### Data Science and Engineering

- Deep Learning/ML
- High Performance Computing
- AWS (S3, RDS, EC2, Amplify)
- PyTorch, TensorFlow, scikit-learn

### Programming

- Python
- R
- Java
- MATLAB

### Hobbies

- Backpacking
- Weightlifting
- Running
- Photography

## EXTRACURRICULAR ACTIVITIES

**Eagle Scout | Troop 508 – Saratoga, CA**

Served as Senior Patrol Leader (organization leader) for troop of 50+. Built future-proof lost and found system for local elementary school. Taught entire troop essential first aid and basic leadership skills.

**Youth Chapter President | Home of Hope Inc. – Hillsborough, CA**

Started and led a group of 20+ individuals for 4 years to fundraise \$35,000 for education for orphans in India.

**Vice President | Photography Club, Case Western Reserve University – Cleveland, OH**

Founded the Photography Club in 2020. Led digital and film photography sessions and editing sessions to teach photography.

## COMMUNITY PROJECTS

**Comprehensive Monkeypox Dashboard**

Built a dashboard depicting and predicting spread of monkeypox in the US

<https://github.com/sakinkirti/monkeypox-dashboard>

**Pneumonia Classification with Deep Learning**

Classified pneumonia with an accuracy of 99% by building a simple neural network using only NumPy

<https://github.com/sakinkirti/pneumonia-classification-from-scratch>