Sukanya Krishna

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Education

University of California, San Diego 2020 - Present

Bioengineering:Mechanical and Cognitive Science: Machine Learning major; Data Science minor

- UCSD Honors Distinction; 3.99 GPA
- Member of UCSD Investors Club, Data Science Student Society, WIC (Women in Computing), SWE

Skills

Proficient Programming Languages/Skills: Java, Python (Tensorflow, Keras, Numpy, Pandas, PyTorch), MATLAB, Closure, SQL, Kubernetes, Docker, HTML, CSS, Javascript

Interests: brain-computer interfaces, robotics, FPGAs, neural networks, NLP, finance

Software: AutoCAD, Excel, Power-Point, Word, G-Suite, AWS

Publications

Tsan, S. et al. including S. Krishna. "Particle Graph Autoencoders and Differentiable, Learned Energy Mover's Distance." *NeurIPS* (2021).

Work Experience

Data Science Engineering Intern; Medtronic June 2022 - August 2022

- Worked on reducing compute time on Digital Twin so that it can be used for real time intervention support (~50k MDI patients on InPen therapy dataset)
- Achieved 7.5x reduction in compute time with stable fitting (1.4% deviation in MARD), and stable parameter estimation (< 4% parameter variation) for 10-minute step size
- Estimated 5x cost reduction in cloud resources (AWS) at scale

Data Science/Bioinformatics Genetics Analysis Intern; Zorrilla Lab, Scripps Research Sept. 2021 - June 2022

- Training in bioinformatics techniques, including GWAS and whole exome sequence analysis using Python, R and other software packages.
- Troubleshooting and applying code in order to perform psychiatric genetic association analysis on the UK Biobank database. For analyzing priori genes and conduct a gene variant discovery analysis

Ignite Fellow; Teach For America Sept. 2021 - Present

- Efficiently educate and lead a small cohort of students in an effort to remove educational inequality in America. Teach 7th and 8th grade students middle school mathematics.

Machine Learning Research Assistant; Duarte Lab, UCSD, San Diego, CA June 2021 - Present

- Experimenting with anomaly detection methods for discovering new physics in the data collected from the Large Hadron Collider
- Working on developing particle graph autoencoders, unsupervised deep learning models for application in anomaly detection

Data Science & ML Intern, HindSight Technology Solutions June 2021 - Aug. 2021

- Completing Natural Language Processing projects using spaCy, Streamlit, AWS, and more.
- Learning about ML classifier systems, data processing and scraping, and few-shot learning.

Recent Projects

Fake Amazon Reviews (FARS) Jan. 2022 - June 2022

- Led a team of 4 on a Data Science/ML project upon US Amazon Customer Reviews dataset from Amazon archives (2014-2015), using KNN (K-Nearest Neighbors) and Bigrams + Random Forest Classification to predict whether a given review is verified or unverified.
- Optimized the KNN classifier by working on feature selection and data cleaning - achieved around 70% test accuracy for both models

Awards

- Ignite Fellowship 2021; 2022 - selected as teaching fellow through TFA that will help facilitate the learning of elementary and middle school students from low-income communities
- IRIS-HEP Fellowship -research fellowship for summer 2020-21 to conduct research on particle graph autoencoders at Duarte Lab
- Rotary Interact Scholarship - Community Service - for participation in the Rotary Organization Interact Club and gaining over 300 community service hours in high school
- Robotics - VEX Robotics World Championships Qualifier - 2017; VEX Robotics State Championships Finalist- 2018; 2019; 2020