JULIE LAI

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EDUCATION

University of California, Berkeley

M.S. in Information and Data Science · August 2020 - August 2021

College of Letters and Science, B.A. in Physics and Astrophysics · August 2016 - May 2020

WORK EXPERIENCE

Bioinformatics Intern · May 2019 - June 2020

Finkbeiner Lab, Gladstone Institute of Neurological Disease · *San Francisco, California*

· Refining semi-supervised machine learning models with Python to predict ALS using patient genomic data
· Visualizing trends in patient genomic data using matplotlib and seaborn graphs
· Compacting large amounts of patient genomic data into a concise dataframe of patient versus variants

Astrophysics Research Assistant · February 2018 - February 2019

Nugent Research Group · *Berkeley, California*

· Categorized behavior supernovae light curves to understand causes a supernova's final explosion
· Fitted H-alpha peaks to Gaussian curves using Python to determine significance compared to noise

PROJECTS

Predicting Alzheimer's · November 2020

· Using a Kaggle Dataset of MRI Segmentation Images to classify different stages of Alzheimer's dementia
· Classifying images using a variety of models including Keras, Naive Bayes, and SVC
· Filtering the data through dimension reduction

Modeling Stellar Spectra · May 2020

· Built a generative model to predict what a stellar spectrum should look like for a given set of stellar properties using linear models and MCMC optimization
· Used this model to infer the properties of stars by fitting their spectra
· Visualized predicted spectra and properties of stars using matplotlib and seaborn

LEADERSHIP

Media Director · January 2019 - May 2020

The STEMinist Chronicles · *Berkeley, California*

· Executing the photoessay pipeline which involves interviewing the individual, transcribing the interview, and editing the photoessay
· Promoting representation of women in STEM by publishing photoessays on social media platforms and reaching audiences larger than the university

Cultural Peer Mentor · August 2018 - May 2020

Berkeley International Study Program · *Berkeley, California*

· Providing guidance and resources to visiting international students to make successful cultural and academic transitions
· Organizing events in the Bay Area to explore American culture that is inclusive for a large group of students of different backgrounds

STRENGTHS

Technical	Python (numpy, pandas, scikit-learn, matplotlib, seaborn), Microsoft Excel, LaTeX, Bash, LabView, R, SQL
Graphic Editing	Adobe Photoshop, Adobe Lightroom, Adobe Premiere Pro, Adobe Illustrator, Procreate
Languages	Conversational Chinese and Spanish