SALLY ZHAO

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Education:

Columbia University Sep 2023 – Expected May 2024

- MS in Computer Science, Machine Learning Track

University of Maryland, College Park (GPA 3.74) Sep 2019 – May 2023

- BS in Computer Science, Minor in Statistics (QUEST Honors)
- BA in Philosophy

Experience:

NASA Intern Aug 2021 – May 2023

- Created python package to transform (e.g. filter, clean, grid, fuse) raw satellite data for research purposes
- Parallelized code for faster processing speeds (achieved 40x speedup from benchmark) using Docker and Numba

BAE Systems Consultant (through QUEST) Sep – Dec 2022

- Consulted nonconforming part process to decrease resolution time and save $202.60 per part per day

MAA (Mathematical Association of America) Mathfest Presenter and Judge Jun – Aug 2022

- Presented and published research on computer vision analysis of film focal point composition and analysis
- Critiqued and judged student presented and published posters as an invited judge

Mathematical Contest in Modeling (MCM) Team Member – Honorable Mention (x2) Feb 2020 – Feb 2022

- Designed and developed climate change predictions and corresponding fish migration patterns and wrote a paper using mathematical models to advise fishing industry professionals on future practices for the next 50 years
- Created Python scripts, agent-based models, and economic models to simulate hypothetical asteroid mining impact on country and worldwide equity

RIFE International Consultant (through QUEST) Sep – Dec 2021

- Identified top energy project candidates in DC through data analysis and modeling for best sustainability practices

Lockheed Martin Intern May – Aug 2021

- Updated ansible servers and rewrote scripts from Python 2 to Python 3 to prevent future security vulnerabilities

Drexel University Intern Jun – Aug 2020

- Worked with NLP and machine learning (SMILES) in Python and Jupyter Lab to model drug-protein docking
- Identified top 10 drug candidates to aid and speed up the drug development process

Baltimore University of Maryland School of Pharmacy intern Jun – Aug 2017

- Developed acetaminophen overdose app that calculates residual amount in bloodstream using R and Shiny

Coursework and Skills:

Mathematics: Statistics, Multivariable Calculus, Discrete Math, Linear Algebra

Computer: Java, Python (numpy, scipy, scikit-learn, pandas, etc), R, STELLA, Javascript, Ruby, HTML, C, LaTeX, Linux, YAML

Applications: Tableau, Autodesk Inventor, STELLA, MS Office, Procreate, Photoshop, Gimp, Latex

Notable Courses: Machine Learning, Functional Programming, Data Science, Algorithms and Data Structures, Operations Management

Activities:

UMD Discrete Structures Teaching Assistant – led and organized biweekly student discussions and reviews Jan 2020 – Feb 2022

UFO and Bigfoot tracking – performed web scraping and data analysis of geography and demographics of sightings May 2021

FDA aimHI lead developer for medical app development for POTS patients – collaborated with team of 10 students Jun – Aug 2016

Awards, Publications, and Conferences:

"Remote Sensing Data Fusion for Earth Science Application Using Python", ESDSWG, 1st Author Apr 2023

Remote Sensing Data Fusion for Earth Science Application Using Python", AGU, 1st Author Dec 2022

QUESTTech Datathon Winner (COVID-19 modeling and prediction using machine learning and data models) Mar 2022

"Exploratory Computer Vision Application for Film Scene Composition Analysis", MAA Mathfest, 1st Author Aug 2022

SCUDEM V Team Member – Outstanding Award (Modeled human social interaction on reproduction theory) Nov 2020