Shane Stevenson

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RELEVANT WORK EXPERIENCE

Naval Research Enterprise Internship Program **June 2024 - August 2024**
Atmospheric Propagation Intern San Diego, CA

- Independently designed a scalable error characterization pipeline to assess the accuracy of aggregated weather sensors
- Collaborated with team members to validate my error characterization pipeline, ensuring its accuracy and reliability
- Interfaced with Docker to create a continuous integration/continuous deployment (CI/CD) pipeline on GitHub
- Wrote robust tests for the error characterization pipeline codebase and interfaced them with the CI/CD pipeline
- Assisted a teammate in deploying their product online as a standalone website, ensuring accessibility and functionality

SDSU Machine Vision and Perception Lab **August 2023 - June 2024**
Research Assistant San Diego, CA

- Played a pivotal role in developing our python web scraping pipeline in order to more than double the size of our dataset
- Won a $3,000 grant for our team after completion of the National Science Foundation's I-Corps program
- Contributed to the development of our property attribute prediction models, and helped interface them with our database
- Fixed and helped build our project website, interfacing with Apache, AWS, and SQL
- Took initiative to onboard new members as we began to scale development

Research Experience for Undergraduates (REU) **May 2023 - July 2023**
Undergraduate Researcher Denton, TX

- Built a custom AI to recognize and count the number of trees in a given point cloud with an accuracy of 85%
- Handled and processed 951 square miles of point cloud data retrieved from aerial UAV drones with LiDAR attachments
- Developed voxel grid data augmentation in order to enhance the quality of our dataset, and increase its size eightfold
- Utilized the TACC supercomputer to train a task adjacent model for future transfer learning use

EDUCATION

San Diego State University **August 2022 - Present**
Third year Computer Science and Computational Mathematics double major San Diego, CA
GPA: 3.98
Relevant coursework:

- Data Structures, Algorithms, Introduction to Artificial Intelligence, Advanced Programming Languages
- Computer Organization, Intro to Software Systems, Computer Architecture, Scientific Database Techniques
- Mathematical Data Science, Linear Algebra II, Abstract Algebra, Advanced Calculus, Algebraic Coding Theory

PROJECTS

Academic Projects:

- Wrote paper "Compressed Sensing: Mathematical Foundations, Implementation, and Advanced Optimization Techniques"
- Created an image compression program that utilized Singular Value Decomposition and DCT coefficient compression in order to reach compression ratios between 10:1 and 50:1

Avionics member of the SDSU Rocket Project:

- Designed a python program that used NI-DAQ equipment for data acquisition during a static hot fire at over 1,000 Hz
- Developed a Python program to record and visualize data received from a load cell during a static launch
- Interfaced with an ADS1115 and a pressure transducer in order to acquire high quality data

SKILLS

- Python, C++, SQL, Java, HTML, CSS, HLSL
- Data visualization, Data processing, Data augmentation
- Linux, Algorithms, Data structures
- PyTorch, Machine Learning, Numpy, Pandas, Sci-py

Interests

- Machine learning, Data Science
- Competitive Programming, Mathematics