

Education

University of Delaware

GPA: 3.86 / 4.0 | B.S. Applied Mathematics & Computer Science

Sept. 2021 - May 2025

- Relevant Coursework (All Graduate Level): Machine Learning, AI, Mathematical Data Science, Linear Algebra, Probability Theory & Random Processes
- Undergraduate Thesis: Deep Reinforcement Learning in Extremal Combinatorics

Experience

NASA

Research Collaborator

Nov. 2025 - Present

Mountain View, CA (Remote)

- Collaborating with NASA scientists to write a research paper about computer vision for solar activity forecasting.

Beacon Industries

Machine Learning Engineer

Sept. 2025 - Present

Newington, CT

- Implemented a reinforcement-learning algorithm for robust satellite control using deep neural networks in PyTorch and ANSYS simulations, improving collision avoidance by 15%, and saving maintenance and prototyping costs by \$800K.
- Deployed RAG document writing software using LangChain and Qdrant vector database integrated with React JavaScript frontend using AWS EC2, accelerating DoD-proposal writing efficiency by 3x.
- Designed low-noise data acquisition system of electrical signals for NASA's aircraft turbulence sensors using signal processing circuitry simulations in MATLAB Simulink, increasing data resolution by 5x the industry standard.
- Leading the embedding of ML software demos into the company webpage by integrating code written in TensorFlow and Scikit-learn into secure frontend and backend architectures using AWS S3, Next.js, Flask, Weaviate, OpenAI API, TypeScript, and ReactJS, to increase successful contractee response rates.
- Directing system security and compliance for AI/ML infrastructure, developing NIST 800-171 and DFARS documentation for CMMC readiness in a DoD-regulated environment.

NASA

Data Scientist Intern

Jun. 2024 - Aug. 2024

Mountain View, CA

- Built an ETL pipeline in Python to merge overlapping solar images into a full-scale image dataset using AWS S3 with FastAPI for scalable storage and deletion, resulting in 75% speedup in large-scale analyses of the sun's polar regions.
- Architected a 3D solar visualization tool using OpenCV and AstroPy deployed on AWS ECS for 3,000+ researchers.
- Trained a TensorFlow model deployed on Docker containers to automate alignment for 1,000+ images of the solar limb, improving processing speed by 3x and ensuring measurement accuracy in downstream research workflows.

Sensify Lab

Machine Learning Engineer Intern

Sept. 2023 - May. 2024

Newark, DE

- Optimized random forest and SVM models by researching new user features in reported browsing history using Pandas and Scikit-learn, improving depression/anxiety prediction accuracy from 70% to 75%.
- Engineered BERT transformer and neural network pipelines in PyTorch for sentiment and rating classification on 250K+ app reviews and bootstrapping from 3K manually labeled samples, increasing sentiment classification accuracy to 80%.
- Contributed to an ICWSM '25 publication by building Python tools and Amazon Mechanical Turk surveys for a large-scale human vs. LLM rating classification study.

NASA

Software Engineer Intern

Jun. 2023 - Aug. 2023

Mountain View, CA

- Developed a full-stack data portal with visualization tools in JavaScript/Python for solar research deployed using Amazon EC2, improving query speed 30% by integrating a MySQL backend with RESTful API endpoints and optimizing filters.
- Automated solar feature detection by training a CNN for image segmentation in OpenCV/TensorFlow, achieving 75% accuracy on 4,680+ satellite images and accelerating performance speed by 1.5x using multithreaded data loading.
- Packaged the image segmentation model using Amazon SageMaker to prepare for deployment with an API endpoint.