Andrew Ngo

ango@udel.edu | andrewango.vercel.app | linkedin.com/in/andrewango

Education

University of Delaware *Newark, DE*

B.S. in Computer Science, B.S. in Applied Mathematics | GPA: 3.86/4.0 (Cum Laude) *Sept. 2021 - May 2025*

Graduate-Level Coursework: Machine Learning, AI, Mathematical Data Science, Linear Algebra, Random Processes

Skills

Programming Python, TypeScript, JavaScript, Java, C/C++, MATLAB, ARM Assembly

Web & Database HTML, CSS, SQL, MySQL, PostgreSQL, Firebase

Frameworks ReactJS, Node.js, Tailwind CSS, Express.js, FastAPI, Jest, Pandas, PyTorch, Tensorflow, OpenCV, NumPy

Tech Git, Docker, VSCode, LaTeX, MS Office, Ubuntu, Linux

Experience

University of Delaware *Newark, DE*

Research Engineer Intern *Sept. 2024 - May 2025*

- Designed and implemented a PyTorch-based reinforcement learning system with custom graph embeddings, enabling 10x faster counterexample search in graph theory.
- Authored a technical paper detailing architecture and performance benchmarks, building the foundation for ongoing research.

NASA *Mountain View, CA*

ML/Software Engineer Intern *June 2024 - Aug. 2024*

- Built a production-grade ETL pipeline in Python to merge overlapping solar images into a full-scale image dataset for large-scale analysis.
- Developed a 3D solar visualization tool using OpenCV and AstroPy, containerized with Docker for deployment to 3,000+ researchers.
- Improved processing speed 3x by training TensorFlow models to automate alignment for 1,000+ images, ensuring measurement accuracy.

Sensify Lab *Newark, DE*

Research Engineer Intern *Sept. 2023 - May 2024*

- Optimized random forests and SVMs using Pandas feature engineering, boosting depression/anxiety prediction accuracy from 70% to 75%.
- Engineered scalable neural network pipelines in PyTorch for sentiment and rating classification on 250K+ app reviews, increasing sentiment classification accuracy to 80% by bootstrapping from 3K manually labeled samples.
- Built Python tools and Amazon Mechanical Turk surveys for a large-scale human vs. LLM rating classification study, contributing to an ICWSM '25 publication.

NASA *Mountain View, CA*

ML/Software Engineer Intern *June 2023 - Aug. 2023*

- Developed a full-stack data portal and data ingestion pipeline with visualization tools in JavaScript/Python for solar research, integrated with a MySQL backend to improve query speed 30% by optimizing filters for category and time-based retrieval.
- Automated solar feature detection using image segmentation in OpenCV/TensorFlow, achieving 75% accuracy on 4,680+ satellite images.
- Reduced processing latency by 150% using multithreaded data loading and batch processing.

Projects

Cora, Your Anatomy Assistant

JavaScript, FastAPI, Three.js, OpenAI Whisper, IBM Watson API, Figma, Git

- Built a full-stack web app with a JavaScript/HTML frontend and FastAPI backend serving RESTful API endpoints.
- Integrated Whisper AI and IBM Watson APIs to enable speech-to-text functionalities.

Restaurant Menu

React Bootstrap, TypeScript, HTML, CSS, Jest, Git

- Built a React/TypeScript website with session-based role access and state management, integrating CI/CD using GitHub Actions.
- Ensured unit test coverage of at least 90% using Jest by leading code reviews with Git for Agile team of 5 developers.

Radiosurgery Optimizer

Julia, Python, OpenCV

- Balanced 87% tumor coverage while preserving healthy brain tissue for radiosurgery by developing an optimized simulation.