Anirudh Mani

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EDUCATION

Carnegie Mellon University - School of Computer Science Aug 2023 - May 2026
Bachelor of Science (B.S.) in Computer Science, Concentration in Machine Learning Pittsburgh, PA
Awards: Best Campus Hack @HackCMU 2023, Runner Up at Goldman Sachs CMU Quantathon 2025
Courses: Deep Learning, Machine Learning, Computer Vision, NLP, Data Structures and Algorithms, Distributed Systems, Probability, Functional Programming

Bellarmine College Preparatory Aug 2019 - May 2023
1600 SAT, Bell Dev Club, Bell Business Club, NSDA Academic All-American San Jose, CA

SKILLS

Languages: Python, Java, JavaScript, SQL, C++, C, HTML/CSS, Standard ML
Libraries/Frameworks: PyArrow, PyTorch, OpenCV, React, Django, MySQL
Developer Tools: Git, AWS, VS Code, Jupyter/Colab

EXPERIENCE

Machine Learning Engineer Intern Feb 2024 - Present
Rockfish Data (Synthetic Data for operationalizing AI workflows) Pittsburgh, PA and San Ramon, CA
Onboarding

- Benchmarked onboarding workflows (from DIY model setups to fully automated hyperparameter sweeps, data-quality checks, and recommender integration) to pinpoint the best use case config
- Developed automated dataset classifiers (time series vs. tabular) that feed into the Rockfish ingestion config engine, enabling dynamic model selection and a seamless onboarding experience

Model Training

- Implemented sample-based hyperparameter tuning for GANs and Transformers, optimizing on data subsets to cut compute costs while preserving full-dataset performance
- Enhanced Rockfish platform sampling efficiency by optimizing epoch scheduling algorithms to better capture and represent rare data categories during synthetic data generation processes

Data Fidelity Preservation

- Developed comprehensive fidelity metrics to evaluate synthetic data effectiveness in preserving field dependencies and range constraints, ensuring high-quality data generation outcomes
- Achieved 12% improvement in fidelity scores through benchmarking of Rockfish against leading platforms (Gretel, Mostly AI), demonstrating competitive advantage in synthetic data quality

PROJECTS

Neural-Net OCR System [PyTorch · Neural Networks] Mar 2025 - May 2025

- Built a neural network from scratch and trained on the NIST36 dataset, achieving over 92% test accuracy on handwritten character recognition and real-world text extraction

Real-Time AR Feature Matching [Computer Vision · Python] Jan 2025 - May 2025

- Developed a full-stack AR system integrating real-time visual feature detection (FAST/BRIEF), robust planar homography, and graphics overlay on live video streams

Clickbait Detection [BERT DL model, PyTorch, Hyperparam Tuning] Oct 2024 - Nov 2024

- Implemented an Encoder-Decoder model and fine-tuned hyperparameters to optimize classification performance for identifying clickbait-style spam headlines in news article datasets

Eco-Bin [Python · ML · HTML/CSS] Sep 2023 - Jan 2024

- Designed an ML-driven, point-of-use guided trash sorting application for CMU Sustainability