Ananth Sriram

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Education

University of Maryland College Park, MD

Bachelor of Science in Computer Science, Minor in General Business *Expected Graduation: May 2026*

GPA: 3.53, President's Scholar, Dean's List

Experience

Capital One Jun 2025 – Aug 2025

Software Engineering Intern *Richmond, VA*

- Engineered a containerized deployment pipeline (*Python, Docker, Flask, Selenium*) for a LLM based on Llama 4 Scout, deployed from end to end in QA on **AWS ECS Fargate** (ALB, Lambda, SNS). Automated a 20-minute manual knowledge base upload, reducing update time by over **90%**; slated for production in 2 months.
- Resolved over **10** complex *Docker* build and runtime failures, hardening the deployment environment by addressing CPU architecture mismatches, memory, and system library dependencies, preventing an estimated **1-2 week** project delay.
- Authored a *Python/Selenium* web automation module to bypass sophisticated SSO anti-bot detection via *JavaScript* injection. Established a robust testing framework (*pytest, unittest.mock*) with over **80%** code coverage to ensure long-term reliability.

Central Maryland Research and Education Center Dec 2023 – Present

Undergraduate Research Intern *Bethesda, MD*

- Co-authored the peer-reviewed publication, "An Overview of Drones in Agriculture," synthesizing the current state-of-the-art in ML applications for precision agriculture.
- Currently spearheading a novel research initiative to automate the discovery of agricultural insights by architecting a data pipeline that uses **Generative AI** and the **ArXiv API** to extract, analyze, and validate spectral indices from academic literature against real-world multispectral satellite data.

ZoomInfo Jun 2024 – Aug 2024

Machine Learning Engineer Intern *Bethesda, MD*

- Built a scalable AutoML SDK from scratch using Python, scikit-learn, and PyTorch—automating preprocessing, model selection, hyperparameter tuning, and evaluation for classification and regression tasks across high-volume datasets.
- Improved model accuracy by **26%** and reduced development time by **30%** by implementing modular support for *Logistic Regression*, *Random Forest*, *Gradient Boosting*, and custom *Neural Networks*.

University of Maryland - A. James Clark School of Engineering January 2024 – May 2024

Undergraduate Research Assistant *College Park, MD*

- Created a real-time web analysis tool for BioAssemblyBot 400 using *React, D3.js*, and integrated a Random Forest model to predict bioprint quality with **85%** accuracy.
- Optimized bioprinting workflows with Python (*NumPy, Pandas, Matplotlib*) and implemented a self-correcting mechanism using *Bayesian optimization* on a Raspberry Pi, reducing error rates by **23%**.

Projects

AI/Real Music Detection App | *Python, PyTorch, React.js, Flask, Pickle* May 2023 – Aug 2023

- Developed a full-stack application utilizing *Python, PyTorch, React.js* to classify *mp3* files as AI-generated or real artist-produced by generating and analyzing spectrogram imagery. Implemented an interactive web interface, connecting the front-end to the back-end via *Flask* and *Pickle* for seamless model integration.
- Trained a *Convolutional Neural Network* using a pre-trained model *ResNet* on hundreds of hours of Real/AI music spectrograms, achieving a **92%** prediction accuracy through image analysis.

Technical Skills

Languages: Python, Java, C++, JavaScript, SQL, OCaml
AI/ML: Generative AI, LLMs, MLOps, AutoML, PyTorch, TensorFlow, scikit-learn
Cloud/DevOps: AWS (ECS Fargate, Lambda, ALB, SNS), Docker, Git, Linux
Frameworks/Tools: Flask, React.js, Selenium, Pandas, NumPy, pytest