Yash Narayan

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Education

University of Florida **2024 - Spring 2027**

Major: Computer Science - Bachelor of Science - Herbert Wertheim College of Engineering

Relevant Coursework: Discrete Structures, Advanced Programming Fundamentals, Calculus 3, Linear Algebra, Data Structures and Algorithms, Introduction to Computer Organization, Introduction to Software Engineering, Engineering Statistics, Operating Systems.

GPA: 4.0

Experience

Timothy J. Garrett Laboratory **Summer 2025, Fall 2025**

UF Department of Pathology, Immunology and Laboratory Medicine

maxiMiZe | *Python, OpenCV, cv2, NumPy, SciPy, PyQt*

- Contributed to a modular data processing system for mass spectrometry and chromatography workflows, handling **3 GB+** of analytical data.
- Developed vectorized signal-processing and statistical routines in NumPy/SciPy, improving isomer-detection accuracy by **27%**.
- Parallelized core computation modules using Python multithreading and I/O optimization, reducing total processing time from 1.5 hours to 10 minutes (**90%** faster).
- Built automated data-validation and reporting pipelines with PyQt GUI integration, cutting manual debugging effort by **60+** hours and reducing data errors by **>95%**.

Rebel Pouches **Summer 2025**

Triple Atom | *Rust, Next.js, Tailwind, MySQL*

- Engineered a Rust-based backend and Next.js dashboard aggregating real-time sales and marketing metrics.
- Automated data pipelines, cutting reporting latency from 15 min to 5 s (**99.4%** improvement).
- Directed Agile sprints and peer reviews to stabilize production releases, eliminating **55%** of post-deploy bugs.
- Translated business requirements into scalable backend modules, ensuring alignment between engineering and operations.

Projects

Market Risk Assessment - Lead Developer

- Designed and trained a TensorFlow VQ-VAE-HMM model for real-time market risk profiling across **30 GB+** of financial indicators.
- Implemented a backtesting framework to compute portfolio alpha, beta, variance, and Sharpe ratio, supporting automated strategy evaluation.
- Deployed Value-at-Risk and volatility modules that improved predictive accuracy by **18%** in stress-testing scenarios.

LORA PCB Tester - Team Lead

- Led Aeronix Hackathon project developing an automated validation platform for LORA radio PCB signal integrity and compliance testing.
- Integrated an LLM-based schematic analysis pipeline generating MD/PDF/DOCX reports, cutting review time from **40 hours** to under **5 min**.
- Implemented data parsing and test automation modules backed by Pinecone DB, reducing memory overhead by **19%**.

Stock price predictor - Team Lead

- Designed and deployed a time-series forecasting system using TensorFlow regression models with automated CI/CD integration for continuous updates.
- Engineered feature pipelines and interactive dashboards to visualize live predictions and simulate investment strategies, increasing forecast accuracy by **17%.**

Clubs and Organizations

GatorAI: Contributed to applied machine learning projects in quantitative finance, including portfolio Value-at-Risk estimation.

Software Engineering Club: Led training sessions on full-stack development, Git workflows, and Agile sprints; mentored teams on system design and code review.

Open-Source Club, Florida Engineering Society, Association of Computing Machinery: Active contributor and participant.

Awards and Honors

UF Dean's List Fall 2024 - Summer 2025

UF Distinguished Scholar 2024, 2025

Skills

Languages: C++, Python, Rust, Java, SQL, JavaScript

Frameworks & Libraries: TensorFlow, PyTorch, React, Next.js, Node.js, PyQt, OpenCV, NumPy, SciPy, REST APIs

Database & Cloud: MySQL, PostgreSQL, AWS, Docker, Kubernetes, Pinecone DB

Computer Science Fundamentals: Data Structures, Algorithms, Systems Programming, Concurrency, Threading Models, Object-Oriented Design

Development Practices: Agile/Scrum, Continuous Integration (CI/CD), Automated Data Systems, Technical Requirement Specification

Tools: Git, Jira, Slack, Excel, Linux