Yash Narayan

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Education

University of Florida **2024 – Est Spring 2027**

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

Course work: 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*

- Built a Python-based **data processing** and analysis platform integrating mass spectrometry and chromatography datasets.
- Applied NumPy, SciPy, Pandas for large-scale data workflows, improving accuracy of isomer detection.
- Reduced runtime by from ~1.5 hours to ~10 minutes, an **89%** gain through multithreading and parallelization.
- Automated input validation, error handling, and reporting pipelines, ensuring reliable output. Reduced errors by **96%** and saved **60+** hours of bug fixing.

Rebel Pouches **Summer 2025**

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

- Developed a full-stack Rust + Next.js + MySQL analytics system, aggregating real-time sales and marketing data. Designed data pipelines and automation tools that reduced reporting from ~15 minutes to ~5 seconds, a >99% reduction.
- Spearheaded an Agile team, participating in code reviews, sprint planning, and iterative releases, leading to a 55% reduction in production bugs and improved code quality.
- Partnered with non-technical stakeholders to ensure software aligned with operational and business requirements.

Projects

Market Risk Assessment **Lead Developer**

- Developing a TensorFlow-based **VQ-VAE-HMM** for real-time market risk analyzer for portfolio hedging and performance tracking using **~ 30 GB** of indicators including technology stock prices, hedge fund data, fear and greed index, market volatility, etc.
- Building backtesting engine to compute alpha, beta, variance, and Sharpe ratio.
- Implementing Value-at-Risk (VaR) and volatility models for quantitative risk assessment.

LORA PCB Tester **Team Lead**

- Led Aeronix Hackathon project creating a LORA Radio PCB validation tool for train safety.
- Applied **LLM-based analysis** for schematic validation and automated report generation (MD, PDF, DOCX), eliminating ~40 hours of manual review in favor of ~5 mins of AI review, and increasing efficiency by >**99.9%.**
- Implemented input parsing, added robust test cases, and used **Pinecone DB** to optimize memory usage by **19%**.

Stock price predictor **Team Lead**

- Developed a forecasting system in TensorFlow for financial time-series data using Continuous Integration and Continuous Delivery practices.
- Implemented custom regression models, with feature engineering for improved accuracy.
- Built interactive dashboards with MarketStack API to visualize predictions and simulate investment scenarios.

Clubs and Organizations

GatorAI

- Collaborated on applied machine learning projects focused on financial modeling and quantitative analytics.
- Contributed to developing a market risk assessment system using TensorFlow for portfolio performance and Value-at-Risk estimation.

Software Engineering Club

- Led technical training sessions on full-stack development, version control, and collaborative coding practices.
- Mentored student teams through Agile sprints and code reviews to improve project structure and delivery quality.

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

Tools & Platforms: Linux, Git, MySQL, PostgreSQL, React.js, Next.js, Node.js, NumPy, Scipy, OpenCV, Jira, Slack, Excel, Pinecone DB, Kubernetes, Docker, AWS, PyQt, PyTorch

CS Fundamentals: Data Structures, Algorithms, Concurrency, Threading Models, Object Oriented Programming, Systems Programming