Nickolas Regas

908-577-7378 | n.a.regas@wustl.edu | linkedin.com/in/nickregas | GitHub

Education

Washington University in St. Louis — St. Louis, MO

B.S. in Computer Science & Math, Minor in Electrical Engineering — *Expected May 2028*

- GPA: 4.00/4.00 — Dean's List
- Relevant Coursework: Data Structures & Algorithms, Machine Learning, Object-Oriented Programming

Technical Skills

Languages: Python, Java, C++, TypeScript, JavaScript, SQL, MATLAB, HTML/CSS
Frameworks & Libraries: React, FastAPI, Tailwind, Scikit-learn, XGBoost, PyTorch, Pandas, NumPy, Matplotlib
Developer Tools: AWS, Docker, Git, Linux, REST APIs, SQLite

Experience

Incoming Machine Learning Research Intern — Summer 2026

Dr. Zhao Zhang Lab for High Performance Computing and Big Data Systems — *New Brunswick, NJ*

- Fine-tuning open-source LLMs to build an AI agent that replicates codebases from published research papers

Software Engineer — January 2026 – Present

WashU VTOL — *St. Louis, MO*

- Developed an autonomous drone simulation pipeline using Gazebo, PX4, QGroundControl, and Python to model firefighting mission scenarios, enabling rapid mission iteration before real-world flight testing
- Implemented ArUco marker-based computer vision and UDP-based communication for precision navigation and autonomous landing, achieving 5+ successful autonomous test flights

Professional Outreach Chair — December 2025 - Present

McKelvey Computer Science & Engineering Fellowship — *St. Louis, MO*

- Coordinated 10+ exclusive industry info sessions with engineers and recruiters from Valkyrie Trading, Gemini Trust, Databricks, and others, building a structured recruiting pipeline for 40+ fellows

IT Specialist & Consultant — November 2024 – Present

Patel Law Offices — *Clark, NJ*

- Built 20+ Zapier automation workflows integrating Gmail, Mailchimp, and LexHelper, and maintained 10+ WordPress sites on IONOS, improving operational efficiency by 40%

Research Scholar — Summer 2024

The Governor's School of New Jersey Program in Engineering & Technology — *New Brunswick, NJ*

- Developed and tested advanced pathfinding algorithms (A* & RRT*) for unmanned aerial vehicles in collaboration with Lockheed Martin, identifying the most efficient navigation strategies
- Presented at MIT's Undergraduate Research Technology Conference and published paper in IEEE Proceedings

Projects

Cryptocurrency Order Book & Matching Engine | *C++20, SQLite, CMake, Google Test* | *GitHub Repository*

- Built a thread-safe limit order book and price-time priority matching engine in C++20 with fixed-point arithmetic for deterministic precision and a producer-consumer simulator driven by live BTC prices from CoinMarketCap
- Persisted trades to SQLite via prepared statements, computed rolling VWAP, spread, and volatility with Welford's algorithm, and benchmarked p50/p99 latency from N = 1 to 100k orders

Stock Portfolio Optimizer | *Python, Sci-Kit Learn, pandas, NumPy, Docker, AWS* | *GitHub Repository*

- Built a quantitative trading pipeline pairing a Random Forest return predictor with a CVXPY convex portfolio optimizer, achieving a backtested 34% CAGR, 1.38 Sharpe, and 1.45% daily volatility over 150+ trading days
- Productionized the system on AWS by containerizing the model with Docker and deploying via EC2, with S3-backed data and artifact storage

Patho Disease Data Visualizer and Predictor | *Typescript, HTML/CSS, React, FastAPI* | *Link to App*

- Won Best Use of Featherless AI out of 72 teams at WashU Google DevFest by building an LLM pipeline that generated COVID-19 forecasts across all 3,142 U.S. counties through 2028 using multi-source CDC data
- Built a full-stack geospatial dashboard with drill-down national → county mapping and a fault-tolerant AI inference pipeline with automatic checkpointing, serving 8 years of epidemic predictions across 3,142 U.S. counties