Jay Rao

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EDUCATION

Northwestern University | Evanston, IL — Candidate, June 2028
Bachelor's Degree in Computer Science — Concentration in Artificial Intelligence

SKILLS

Programming Languages: Python, JavaScript, C, C++, HTML/CSS, MATLAB, Racket
Technologies: FastAPI, React Native, Docker, Render
Machine Learning: PyTorch, scikit-learn, LightGBM, Prophet

PROJECTS

blu.jay | *Python, JavaScript, FastAPI, React Native* — Mar. 2025 - Present

- Building a full-stack investment platform across stocks, crypto, real estate, vehicles, and alternative assets
- Engineering a Python backend using **FastAPI**, with ML models built on **scikit-learn**, **LightGBM**, **Prophet**, and **PyTorch**, trained on 10+ years of historical data to generate real-time buy/sell recommendations
- Integrating financial APIs—Tiingo, CryptoCompare, Realtor.com, Kelley Blue Book, StockX, and eBay—with Alpaca and Coinbase for real-time/historical market data ingestion and automated stock and crypto trading
- Containerizing the backend with **Docker** and deploying via **Render** for scalable, cloud-native access
- Developing a cross-platform mobile and web app using **React Native + Expo**, enabling users to monitor performance, receive live strategy alerts, and explore ML-driven insights across asset classes

Adaptive Microwave Interface | *MicroPython, Raspberry Pi, Onshape* — Sep. 2024 - Dec. 2024

- Served as Project Manager of a four-person team to design an accessible microwave interface for individuals with special needs at North Center Community Day Service
- Programmed a **Raspberry Pi Pico** with **MicroPython** to deliver audio feedback, LED power indicators, and tactile controls via start/+30s buttons and a custom dial with preset food options, designed in **Onshape**
- Led user-centered design via research, prototyping, and testing to ensure alignment with client needs

Robot Dog Training | *MATLAB, Simulink* — Mar. 2024 - May 2024

- Refined a reinforcement learning framework in **MATLAB/Simulink** for autonomous robot walking
- Tuned **neural network** reward functions to improve gait efficiency and achieve stable movement

EXPERIENCE

Head Counselor | Camp Argo — Jun. 2024 - Aug. 2024

- Supervised and engaged school-aged children of all abilities through games, songs, and activities
- Fostered a safe, supportive environment for all campers under my supervision
- Took initiative in resolving camper conflicts and ensuring smooth transitions between daily activities

VA Ambassador | U.S. Department of Veteran Affairs — Sep. 2022 - Sep. 2023

- Coordinated transportation for elderly and low-mobility patients to ensure timely medical care
- Supported hospital operations by guiding patients, answering inquiries, and assisting with on-site logistics
- Collaborated with medical staff to improve patient flow and improve coordination across departments

LEADERSHIP

Full-Stack Developer | Northwestern Develop + Innovate for Social Change — 2025 - Present

- Collaborating on web and mobile tools for nonprofits using modern frameworks, prioritizing social impact

Software Engineer | Northwestern Institute of Electrical and Electronics Engineers — 2025 - Present

- Developing software solutions alongside peers to solve real-world engineering challenges

Tinkerer | The Garage @ Northwestern University — 2024 - Present

- Exploring and engaging with startup projects in Northwestern's entrepreneurial hub