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
Tools: Office 365, Jupyter Notebook, Onshape, scikit-learn, FastAPI, Docker, React Native, Expo, Render

PROJECTS

blu.jay | *Python, JavaScript, scikit-learn, XGBoost, FastAPI, Docker, React Native, Expo, Render*   Mar. 2025 - Present
- Building a full-stack algorithmic trading platform in **Python** that uses ML models (**scikit-learn**, **XGBoost**) trained on 10+ years of stock and crypto data to generate real-time buy/sell signals
- Integrated Tiingo, CoinGecko, and CryptoCompare APIs for historical and real-time market data ingestion
- Utilized Alpaca and Coinbase APIs for automated paper and live trading
- Engineering a **FastAPI** backend, containerized with **Docker** and deploying to the cloud via **Render**
- Developing a cross-platform mobile app using **React Native** and **Expo**, enabling users to monitor performance and receive live trade alerts

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 a custom dial, start/+30s buttons, and food icons 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

Analyst | Northwestern Investment Management Club   2024 - Present
- Performing market research and financial analysis to contribute insights for club discussions and initiatives