# 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, FastAPI, React Native + Expo, Docker, Render, PyTorch, LightGBM, Prophet

## PROJECTS

**blu.jay |** *Python, JavaScript, FastAPI, React Native + Expo, Docker, Render, PyTorch, LightGBM*        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 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 including **Tiingo**, **CryptoCompare**, **CoinGecko**, **Realtor.com**, **Kelley Blue Book**, **StockX**, and **eBay** for historical and real-time market data ingestion
- Connecting to **Alpaca** and **Coinbase** APIs for live and paper trading in equities and crypto
- 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 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