Jay Rao

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EDUCATION

Northwestern University   Candidate, June 2028
Bachelor's Degree in **Computer Science**   Concentration in **Artificial Intelligence**
- **Courses:** Fundamentals of Computer Programming (I, 1.5, II), Systems, Data Structures & Algorithms, Linear Algebra, Multivariable Calculus, Probability
- **Organizations:** Men's Rugby, The Garage, IEEE, DISC, IMC

SKILLS

Programming Languages: Python, JavaScript, C, C++, HTML/CSS, MATLAB, Racket
Technologies: FastAPI, Next.js, React Native, Tailwind CSS, Playwright, PyMuPDF, Docker, Render, Fly.io
Machine Learning: OpenAI API, spaCy, PyTorch, scikit-learn, LightGBM, Prophet, SBERT, FAISS

PROJECTS

émusér | *Python, JavaScript, FastAPI, Next.js, Tailwind CSS, OpenAI API (GPT-4), SBERT, FAISS, Playwright, Fly.io*
- Designing an AI-powered job platform to match resumes with live listings from LinkedIn and Handshake
- Building a **FastAPI** backend to parse resumes using **Unstructured.io** and **PyMuPDF**, extract data with **spaCy** and **GPT-4**, and suggest relevant professionals to connect with via **PhantomBuster** and **OpenAI**
- Implementing a **Playwright** scraper and semantic job matching with **SBERT** and **FAISS** vector search
- Adding **GPT4**-based cover letter and resume generation using user data and matched job descriptions
- Creating a **Next.js + Tailwind** frontend with resume upload, match scores, and job alert features
- Deploying globally on **Fly.io** for fast, scalable, low-latency access across regions

blu.jay | *Python, JavaScript, FastAPI, React Native, PyTorch, scikit-learn, LightGBM, Prophet, Docker, Render*
- Building a full-stack investment platform across stocks, crypto, real estate, vehicles, and alternative assets
- Engineering a **FastAPI** backend for real-time buy/sell decisions using ML models (**scikit-learn**, **LightGBM**, **Prophet**, **PyTorch**), combining predictions via a continuously weighted function over infinite time intervals
- 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
- 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
- Containerizing the backend with **Docker** and deploying via **Render** for scalable, cloud-native access

Adaptive Microwave Interface | *MicroPython, Raspberry Pi, Onshape*
- 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

EXPERIENCE

Head Counselor | Camp Argo / Camp Instructor | Camp RA   Jun. 2024 - Aug. 2024, Jun. 2025 - Aug. 2025
- Supervised and led 20+ school-aged children of all abilities through games, songs, and group activities
- Fostered a safe, inclusive environment while actively managing group dynamics and camper well-being
- Adapted activities to individual needs and resolved conflicts, ensuring smooth transitions of 10+ activities

VA Ambassador | U.S. Department of Veteran Affairs   Sep. 2022 - Sep. 2023
- Coordinated transportation for 50+ elderly and low-mobility patients weekly, ensuring 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 enhance coordination across departments