

Aaryan Sharma

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EDUCATION

Ohio State University College of Engineering

Columbus, Ohio

Major: Computer Science & Engineering (AI Specialization), **Minor:** Mathematics | **Expected Graduation:** May 2027

Involvement: Kappa Theta Pi (Tech Fraternity), AI Club, Big Data Analytics Club, Buckeye Laya (Registration Chair)

EXPERIENCE AND LEADERSHIP

Undergraduate Research Assistant — Atmospheric & Climate Modeling, OSU | Apr 2025 – Present

- Benchmarked a PyTorch MLP neural network emulator against the Lorenz 96 physics model on the Ohio Supercomputer Center (Pitzer Cluster), training on 50,000 ensemble state pairs with normalization, LR scheduling, checkpointing, and early stopping to optimize generalization.
- Quantified model fidelity using RMSE, variance, correlation, and covariance diagnostics — demonstrating neural emulators as computationally efficient and viable replacements for traditional numerical solvers in large-scale atmospheric forecasting workflows.

Clinical Robot Intern — Diligent Robotics | Columbus, OH | Jul 2025 – May 2026

- Instrumented telemetry for a 4-robot clinical AMR fleet (5–12 tasks/day), defining reliability KPIs and analyzing real-time monitoring dashboards to track uptime, anomalies, and failures at production scale.
- Diagnosed navigation and perception failures through structured log analysis and root cause investigation, reducing mean time to resolution and improving overall fleet reliability across live hospital deployments.

AI Software Engineer — Outlier | Remote | Oct 2024 – Jul 2025

- Built and maintained AI training data pipelines with automated labeling and dataset versioning; delivered 10 production-ready development tasks contributing to ML infrastructure powering downstream model training.

Software Engineering Intern & Team Lead — Discovery Lab Global | Columbus, OH | Jun – Aug 2024

- Led a team to design, train, and optimize a Python RL agent for a Pong simulation. Improving agent score from -20 to +18.6/20 through iterative hyperparameter tuning and ML tool evaluation.

PROJECTS

EnergyWatch — AI Solar Dispatch Platform | 2nd Place, Claude Hacks @ OSU | Apr 2026

- Built a full-stack AI energy platform (React, Python Flask, Claude API) with a 30-second autonomous dispatch loop where an LLM reasons over live weather data (Open-Meteo), real-time grid pricing, and battery state to issue structured Sell/Charge/Hold decisions with confidence scores and 6-hour dispatch plans.
- Implemented JWT authentication, a notification center with revert logic, and a physics-based solar model with geocoding-driven dynamic weather integration.

App Development Lead — Kappa Theta Pi National Life iOS/Android Application | Columbus, OH | Oct 2025 – May 2026

- Built and deployed the Kappa Theta Pi National Life mobile app using React Native (Expo, TypeScript) and Supabase (PostgreSQL, Auth, Storage), supporting 400+ users with authentication, push notifications (FCM), and deep linking — serving as a full replacement for the national organization's Slack workspace.
- Architected a domain-based data layer using TanStack React Query and feature-organized components against a serverless Supabase backend, enabling scalable state management and clean separation of concerns across the app.

JPMorgan Chase Software Engineering Simulation — Forage (Certified) | 2025

- Built a Spring Boot microservice in Java to process real-time financial transactions via Apache Kafka with Spring Data JPA; implemented transaction validation, balance management, and external Incentive API integration using RestTemplate for reliable inter-service communication.
- Configured Kafka consumers, JSON serialization, and H2 datasource settings; validated end-to-end pipeline correctness with Maven, Testcontainers, & embedded Kafka to ensure robust, test-covered financial processing logic.

Bone Fracture Classification — PyTorch CNN | 2024

- Trained a custom 3-layer CNN on ~10,000 X-ray images to classify bone fractures, achieving ~80% validation accuracy; built full preprocessing, training (Adam, lr=0.001), and evaluation pipelines with loss/accuracy diagnostics.

SKILLS

Languages: Java, Python, JavaScript, TypeScript, SQL, HTML/CSS, MATLAB, R, C, C++, Bash **Frameworks/Libraries:** .NET, Spring Boot, Apache Kafka, PyTorch, Flask, FastAPI, React, React Native (Expo), Node.js, NumPy, pandas, OpenCV, JWT **Cloud & DevOps:** Microsoft Azure (AZ-900, DP-900), Docker, Azure DevOps, GitLab **Tools:** Git, Maven, Supabase, Jupyter Notebook, VS Code, Excel, Jira, Confluence, Figma, Tableau, PowerBI **Certifications:** Microsoft Azure Fundamentals (AZ-900) · Azure Data Fundamentals (DP-900) · JPMorgan Chase SWE – Forage · Deloitte Technology – Forage