

Muhammad Aleem Azhar

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randomedge999.github.io/Portfolio_website

PROFILE

ML Engineer and SWE new grad (CS '26). Hands-on with **Python, TensorFlow, Transformers, OpenCV, scikit-learn**. Builds **data pipelines**, feature engineering, training/evaluation, **model serving via REST**, and monitoring with dashboards. Production experience in **FastAPI, Node.js, Next.js, PostgreSQL/TimescaleDB, Redis, Docker, CI/CD**.

EDUCATION

Rhodes College

Memphis, TN

B.S. in Computer Science; Minor in Statistics

May 2026

- **Honor Roll (Fall 2023)**. Coursework: **Data Structures and Algorithms, Operating Systems, Databases, Probability and Statistics, Machine Learning, Computer Vision**
- **Yonsei University (Seoul)** — Study Abroad: AI and Computer Vision (Fall 2024)

EXPERIENCE

Teaching Assistant, Fundamentals of Computer Science

Jun 2025 – Aug 2025

Johns Hopkins University, CTY

- Boosted comprehension **40%** by designing labs on recursion, loops, and data structures with guided debugging
- Introduced **supervised learning and model evaluation** modules; raised engagement **35%** across **60+ students on 2 campuses**
- Standardized materials and logistics; improved delivery efficiency **30%**

Data Manager and Administrative Support (Intern)

Jan 2023 – Present

Rhodes Student Employment

Memphis, TN

- Automated **payroll and job listings** in Python; reduced processing time **30%** with fewer errors
- Built **feedback pipeline**; improved satisfaction **25%**
- Coordinated campus events; increased participation **20%**

RHOK-SAT CubeSat Research Intern

May 2023 – Jul 2023

Rhodes College

Memphis, TN

- Implemented **TLE and GPredict pass prediction** with **95% accuracy**
- Developed **Python logging service** with **99.9% uptime** and Dash telemetry; sped analysis **40%**
- Shipped secure Dash visualization; improved operator usability **15%**

PROJECTS

City Pulse — Real-Time Analytics

Apr 2025 – Aug 2025

Python, FastAPI, Transformers, TimescaleDB, Redis, Next.js, Mapbox, Docker

- Built streaming pipeline for social/environmental signals; emotion detection with **DistilRoBERTa**, anomaly detection, and **24h forecasts**
- Served **10+ REST endpoints**; geospatial dashboard on Mapbox; TimescaleDB hypertables and Redis caching; dockerized services
- Added logging and monitoring; unit tests for API routes; achieved **sub-second median response** under load

AI Social Mirror

May 2025 – Present

Python, FastAPI, Transformers, scikit-learn, Next.js, Stripe

- Delivered **real-time tone, intent, and sentiment analysis**; improved message clarity **45%** and repeat usage **40%**
- Maintained **99.9% API uptime**; subscription + webhook flow increased conversion **25%**
- Built offline evaluation suite with **precision, recall, confusion matrix**; tuned thresholds to reduce false positives

Soccer Predictor Pro

Jul 2025

Python, Flask, scikit-learn, data scraping

- Implemented **end-to-end ML pipeline**: feature engineering, cross-validation, and calibrated win/draw/loss probabilities
- Used **logistic regression and gradient boosting**; evaluated with log loss + Brier score; improved baseline **10–15%**
- Automated scraping and weekly retraining; dockerized Flask app with dashboard for fixtures and confidence scores

SKILLS

ML and Data: Python, TensorFlow, Transformers, scikit-learn, OpenCV, feature engineering, training/evaluation, model serving (REST)

Data and Storage: PostgreSQL, TimescaleDB, Redis

Backend: FastAPI, Flask, Node.js, REST, webhooks, auth (JWT, NextAuth), Prisma

Frontend: React/Next.js, TypeScript, Tailwind, Mapbox

DevOps: Git/GitHub, Docker, CI/CD (GitHub Actions), Linux, Vercel, dashboards (Plotly Dash)