

Muhammad Aleem Azhar

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PROFILE

Software Engineer new grad (CS 2026) focused on back end and full stack systems. Builds production APIs and services with Python, FastAPI, Node.js, PostgreSQL, Redis, Docker, and CI/CD. Strong in data modeling, auth, logging, testing, and reliability; ships features end to end with measurable gains in latency and uptime.

EDUCATION

Rhodes College

Memphis, TN

B.S. in Computer Science; Minor in Statistics

May 2026

- Selected coursework: Data Structures and Algorithms, Operating Systems, Databases, Software Engineering, Probability and Statistics, Machine Learning
- Yonsei University (Seoul) — Study Abroad in AI and Computer Vision (Fall 2024)

EXPERIENCE

Teaching Assistant, Fundamentals of Computer Science

Jun 2025 - Aug 2025

Johns Hopkins University, CTY

- Designed labs on recursion, loops, and data structures; increased comprehension 40 percent across two campuses
- Standardized materials and logistics; improved delivery efficiency 30 percent for about 60 students
- Added unit testing modules and structured code reviews to lift code quality and consistency

Data Manager and Administrative Support (Intern)

Jan 2023 - Present

Rhodes Student Employment

Memphis, TN

- Automated payroll and job listings in Python; cut processing time 30 percent with validation and scripts
- Built a feedback pipeline; improved satisfaction 25 percent and event participation 20 percent
- Wrote internal docs and CLI helpers that shortened onboarding and reduced errors

RHOK-SAT CubeSat Research Intern

May 2023 - Jul 2023

Rhodes College

Memphis, TN

- Python logging service with 99.9 percent uptime and a Dash telemetry tool; analysis 40 percent faster
- Implemented TLE and GPredict pass prediction with about 95 percent accuracy; parsed radio logs
- Hardened app permissions and flows; improved operator usability 15 percent

PROJECTS

Teacher Evaluation System

May 2025 - Present

Next.js 14, TypeScript, FastAPI, Prisma, PostgreSQL, NextAuth, Tailwind, Docker

- Rubric-based observations with real-time scoring and role-based access control; JWT sessions via NextAuth
- Normalized PostgreSQL schema and Prisma migrations; API routes for six domains and 24 criteria with validation and security headers
- Containerized services; CI and CD with GitHub Actions for lint, test, build, and deploy

City Pulse - Real Time City Analytics

Apr 2025 - Aug 2025

Python, FastAPI, PostgreSQL + TimescaleDB, Redis, Next.js, Mapbox, Docker

- Exposed ten plus REST endpoints for zone stats, alerts, and forecasts; sub second median latency with Redis caching and pooling
- TimescaleDB hypertables for time series; structured request logging, unit tests, and OpenAPI documentation
- Next.js dashboard on Mapbox; Docker Compose dev stack for reproducible setup

AI Social Mirror

May 2025 - Present

FastAPI, Node.js, Next.js, Stripe, logging and monitoring

- Production API with rate limits, retries, and error handling; 99.9 percent uptime and latency dashboards
- Subscription billing with Stripe checkout and webhooks; improved conversion 25 percent
- Added API keys, basic RBAC, and request sampling for quicker debugging

SKILLS

Languages: Python, TypeScript and JavaScript, Java, C, SQL

Back end: FastAPI, Node.js, REST, webhooks, auth (JWT and NextAuth), RBAC, validation, OpenAPI

Data: PostgreSQL, TimescaleDB, Redis, Prisma, SQL modeling and queries

Front end: React and Next.js, TypeScript, Tailwind, Mapbox

DevOps and Quality: Git and GitHub, Docker, CI and CD, Linux, Vercel, logging and dashboards, unit testing, linters and formatters