

Ahmed Mohamed

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EXPERIENCE

Software Engineer Intern *(part-time, 20 hrs/wk)*

September 2025 – December 2025

Mayo Clinic

Rochester, MN

- Built a browser-based DICOM anonymizer that de-identifies medical files without transmitting PHI to any server.
- Implemented a **270-tag** rules engine with **3 rulesets**, UID hashing, and compliance validation workflows.
- Developed **122 automated tests** with **87% code coverage**, network-request blocking, and PHI log redaction.

Software Engineer Co-Op *(summer: full-time · fall: part-time, 20 hrs/wk)*

May 2025 – December 2025

Calero

Rochester, NY

- Cut dev setup from **6h to 15m** by engineering a modular preprocessing pipeline and repo generator in .NET/C#.
- Developed an LLM QA harness with xUnit and Semantic Kernel, validating reasoning across **100+ cases**.
- Shipped a versioned ASP.NET Core 8 REST API for invoice test data, cutting QA setup **from hours to seconds**.
- Reduced stale reads by **30%** by implementing Redis-based caching with freshness guarantees.

Software Engineer Co-Op

September 2024 – February 2025

AImpulse Learning

Remote

- Deployed a React.js/Node.js/Dialogflow chatbot on AWS Lambda, serving **10,000+ queries/month**.
- Reduced resume processing time by **30%** via a parsing pipeline with Python, PostgreSQL, and AWS S3.
- Boosted mentor-matching accuracy by **20%** by optimizing algorithms with Google Maps API and REST.

Software Engineer Intern

May 2024 – September 2024

Yaoota Egypt

Remote

- Optimized Node.js/MongoDB APIs serving **50K+ products**, cutting latency **25%** via caching and pagination.
- Collaborated on a React.js product comparison tool enabling real-time matching and live inventory updates.

Software Engineer Intern

May 2023 – September 2023

City Hall of Giza

Cairo, Egypt

- Developed a Django/Flask content editor with RBAC, enabling non-technical staff to publish securely.

PROJECTS

ChessMate – Production Chess Coaching Platform

[Live](#) | [Case Study](#)

Python, Django, React.js, AWS, PostgreSQL, Docker, Celery, OpenAI, OpenTelemetry, Grafana, Sentry

- Founded and operate the platform in a closed pilot with live Stripe payments; analyzed **150+ games** imported from Chess.com and Lichess, generating **100+ Stockfish-powered coaching reports**.
- Engineered asynchronous backend analysis pipelines with Celery and Redis, processing batches of **5–30 games** while tracking progress across long-running jobs through background task orchestration.
- Implemented CI/CD, authentication, and **1,300+ automated tests**; deployed and operated the platform on AWS Elastic Beanstalk using Docker with production monitoring via OpenTelemetry and Grafana.

CampusFound – Campus Lost & Found Platform

[Live](#)

Next.js, TypeScript, Tailwind, Supabase, PostHog, Playwright, Vercel

- Built the platform for Luther College with admin moderation, auto-expiry, and Playwright E2E tests gating CI.

Retro Game Engine – Published Python Framework

[GitHub](#)

Python, Pygame, Poetry, GitHub Actions – `pip install retro-game-engine`

- Published a Python game-engine framework to PyPI with ECS architecture, rendering, and physics.

Open Source – psf/black (*Python's standard code formatter, 40k+ stars*): authored merged PR [#4611](#) migrating releases to **PyPI Trusted Publishing** (OIDC); accepted by core maintainers.

EDUCATION

Luther College

Decorah, IA

B.A. in Computer Science, minors in Mathematics and Data Science | CS & Math TA

Expected: May 2027

TECHNICAL SKILLS

Languages: Python, JavaScript/TypeScript, C#, Java, C/C++, SQL, R, HTML/CSS.

Frameworks: React, Node.js, Express, Django, Flask, .NET, Semantic Kernel, PyTest, xUnit.

Databases: PostgreSQL, MySQL, SQL Server, MongoDB, Redis, RabbitMQ.

Cloud & DevOps: AWS, GCP, Azure DevOps, Docker, Kubernetes, Git, NGINX, OpenTelemetry, Grafana.

Interests: Competitive chess (2150 blitz, Chess.com), the origin of ChessMate. Bilingual: English, Arabic.