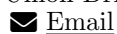


GEORGE ADU

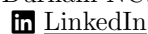
104 Union Drive, Durham-NC, USA



Phone



Email



LinkedIn



GitHub

Education

Duke University

B.S. in Computer Science; Mathematics & Statistics

Aug 2023 – May 2027

Durham, NC

Awards: Silver @ USACO; Finalist @ International Youth Math Challenge; Top 10 @ comma.ai Controls Challenge v2

Coursework: Geometric Algorithms, Theory and Algorithms for Machine Learning, Operating Systems, Analysis(Real & Complex), Abstract Algebra, Data Structures, Probability, Computer Architecture

Experience

Software Engineering Intern — Full-Stack

Jun 2025 – Jul 2025

[Clozure Inc.](#)

Remote

- Automated CI/CD with GitHub Actions and Docker, integrating lint/test/build stages; reduced deployment time by 50% and eliminated manual SSH steps.
- Built a responsive counseling service site using TailwindCSS, HTML, and vanilla JS; optimized load performance under poor network conditions with asset prefetching and lazy loading.
- Designed modular REST APIs (Node.js/Express) with JWT-based auth, Redis caching, and MongoDB aggregation pipelines; deployed on Railway with containerized builds.

Software Engineering Intern

Jun 2024 – Aug 2024

[Curatle](#)

Remote

- Built and tuned semantic vector search for ChatGPT-style API endpoints using OpenAI embeddings and Pinecone, cutting median latency by 45%.
- Developed React/TypeScript dashboard components with reusable hooks and server state via TanStack Query; improved Core Web Vitals by 20%.
- Automated ingestion using Python Cloud Functions with Pub/Sub, backpressure control, and schema validation — achieving 3× throughput with stable error rates.

Software Developer

Jan 2024 – Present

[Duke Applied Machine Learning](#)

Durham, NC

- Shipped production-grade features for ML workflows involving PyTorch training pipelines and React dashboards.
- Worked on cloud deployments (GCP + Docker) for inference endpoints with autoscaling and structured logging.
- Collaborated on model interpretability tooling (SHAP/LIME) and data processing for real-world datasets.

Teaching Assistant

Jan 2024 – May 2024

[Duke Computer Science \(CompSci 230\)](#)

Durham, NC

- Authored problem sets and proof-based assignments with Prof. Shao Heng Ko; covered topics in discrete math, combinatorics, and logic.

Software Engineering Intern

Aug 2023 – Present

[Tech Tree Root \(501c3 Nonprofit\)](#)

Remote

- Built internal tools for hybrid hackathons (Ivy Plus, [Live Ai](#)) — automated judging, registration, and post-event tracking using Python, Flask, and Google Apps Script.
- Implemented multilingual content workflows supporting Python/JS/Swift curricula; optimized static build times via incremental compilation.
- Containerized internal services, added CI hooks, and reduced hosting costs by 30% via scheduled scaling.

Projects

comma.ai Controls Challenge v2 (Top 10) | Python, MPC, CMA-ES

Developed a custom feedback controller to minimize lateral acceleration error and jerk on real driving data. Implemented MPC with horizon tuning, cost shaping, and adaptive feedforward. Optimized PID gains with CMA-ES across 20k+ driving segments. Ranked Top 10 globally on the official leaderboard.

LLaMAChess | JavaScript, Python, FastAPI, llama-cpp-python

Interactive chess app with local LLaMA-2 for offline board analysis. Backend served FEN queries with FastAPI; frontend built with `chess.js` and `chessboard.js`. [Demo Video](#) — [GitHub](#)

xFractal-Visualizer | C++, SDL2

Real-time Mandelbrot set explorer with smooth zoom and panning. Per-pixel iteration coloring and optimized escape-time loop. [GitHub](#)

Single-Cycle-CPU | Logisim

16-bit CPU with 8 registers and custom ISA. Separate clock domains for PC, memory, registers, keyboard, and TTY. Supports arithmetic, memory, branching, and `jal` with `r7` link register. [GitHub](#)

Technical Skills

Languages: C++, Java, C, Python, Rust, TypeScript/JavaScript, SQL, Bash, MIPS

Frameworks/DB: React, Next.js, Node.js, Express, FastAPI, Flask, PostgreSQL, Redis, MongoDB

Tools/Platforms: Git, Docker, Kubernetes, AWS, GCP, Vercel, Cloudflare, Grafana, Prometheus