

# Michael Quansah Hayford

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## Education

**Duke University**, Durham, NC Graduating May 2026  
Bachelor of Science in Computer Science & Certificate in Innovation and Entrepreneurship  
**Relevant Coursework:** Data Structures & Algorithms, Computer Systems, OOP, Operating Systems, Database Systems, Design & Analysis of Algorithms, Discrete Math, Applied ML, Computer Architecture, Computer Networks, Graph-Matrix Analysis, High Dimensional Analysis

## Professional Experience

**Software Engineering Intern, Goldman Sachs** — Orion, Hubble, Python, Java, Jinja2, Elastic, Google BigQuery Jun 2025–Aug 2025

**Project 1: AccountOpenRequest (AOR) Pipeline Optimization**

- **Scope & Problem:** New-account requests in Orion experienced 15–35 minute delays (escalations up to 2 hours) when AORs entered an “exception” state without actionable details.
- **Root-Cause Analysis:** Identified deferred on-demand lookups until a “tracked” request completed; Hubble lacked real-time AOR visibility, preventing timely ops intervention.
- **Solution:** Added a REST endpoint and ViewObject enrichment to expose live AOR status and details (e.g., `status: EXCEPTION_OCCURRED`), enabling immediate triage and targeted fixes.
- Automated data pulls to ensure completed “tracked” AORs appeared in Hubble in < 1 minute.
- **Impact:** SLA improved from ~2 hours to < 1 minute; ops escalations reduced by ~95%; support gained live visibility for faster resolution.

**Project 2: Smart Support Assistant (AI-Powered Help)**

- Built a Python CLI that ingests a trade or Keystone ticket ID, queries Elastic for event traces, runs BigQuery to fetch centralized logs, and aggregates on-prem audit files.
- Chained context into a Jinja2-templated LLM prompt for causal-flow analysis; emitted Markdown “Investigation” and “Compare” reports with timelines and recommended next actions.
- Standardized triage across teams and cut average investigation time by ~50%, improving release-readiness and on-call response.

**Software Engineering Intern, Salesforce (Slack)** — Hack (HHVM), PHP, Backend, TypeScript May 2024–Aug 2024

- Worked on internal platform functions and workflows; triaged and resolved backend issues across Hack/PHP services to improve reliability and error categorization (~30% improvement).
- Contributed to delegated-app integrations using TypeScript and remote function APIs; collaborated with product and QA to validate user feedback fixes prior to release.
- Experience aligned with vendor triage, daily job scripts, and structured incident response workflows.

**Founder, CodeConnect** — Python, Scratch, Raspberry Pi, Program Design Jun 2023–Jul 2023

- Launched an intro-to-coding program in Ghana; designed curriculum and taught Python/Scratch using low-cost hardware.
- Secured \$7,000 OUSF grant; recruited local facilitators and standardized materials for repeatable delivery.

## Projects

**USA Prospects Agent AI Assistant** — Next.js, React, Supabase (PostgreSQL), RAG, Vercel AI SDK [Link](#)

- Built an AI platform used by 1,000+ users for automated essay feedback; streamed responses via Vercel AI SDK and persisted drafts/metadata in Supabase.
- Implemented retrieval and embedding-based similarity for rubric-aligned suggestions; triaged user-reported issues and shipped fixes in weekly releases.

**DataZon: Mini Amazon Full-Stack App** — Flask (Python), SQL (PostgreSQL/MySQL), HTML/CSS/JS [Link](#)

- Built catalog, cart, checkout, order history, and admin CRUD; normalized schema with constraints and indexing for consistent reads/writes.
- Added TF-IDF recommendations (cosine similarity) for “Similar items”; coordinated feature rollouts and hotfixes from user feedback.

## Open Source & Competitions

**BlackRock Pitch Deck Competition (DFE)** 2024

- Co-built an optimized portfolio in Aladdin Factor Workbench; defended allocation for target return at minimal volatility.

**Hackathon — AI Canvas App (Slack Day Winner)** 2024

- Solo-built an AI Canvas prototype; recognized as Slack Day winner for usefulness and execution speed.

## Additional Experience

**Teaching Assistant / Mentor - Calculus Ans Data Structures & Algorithms** 2024–2025

- Guided students on data structures (C++/Java), debugging, and code reviews; emphasized test design and Big-O tradeoffs.

**Freelance Full-Stack Projects** 2023–Present

- Shipped small React/Next.js apps with Supabase/PostgreSQL; added CI and error logging to stabilize weekly releases.

## Technical Skills

**Languages:** Hack/PHP, Python, C++, Java, JavaScript, HTML/CSS, OCaml

**Frameworks:** React, Next.js, Flask, Node.js, Jinja2, Redux

**Data/Infra:** Elastic (ELK), BigQuery, PostgreSQL (Supabase), Firestore, REST APIs, Docker, Git

**Ops/Process:** Issue triage, daily job automation, release content verification, vendor/user feedback loops, AWS Cert