

ZAKARIYE MOHAMED

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EDUCATION

Georgia Institute of Technology | M.S. Computer Science | Admitted | Expected May 2028

Georgia State University | B.S. Computer Science | Major GPA: 3.8 | May 2027

Relevant Coursework: Data Structures, Algorithms, Operating Systems, Computer Organization, System-Level Programming
Software Engineering, Web Programming, Machine Learning

TECHNICAL SKILLS

Cloud: AWS, Azure, GCP, EC2, ECS, EKS, ECR, S3, Route 53, IAM, VPC

Infrastructure: Kubernetes, Docker, Terraform, Terragrunt, ArgoCD, Helm, Linux, Proxmox

CI/CD & Observability: Jenkins, GitHub Actions, Bamboo CI, Artifactory, Prometheus, Grafana, ELK, CloudWatch

Programming: Python, Bash, C/C++, Java, SQL, FastAPI, REST APIs, PostgreSQL

Certifications: Cornell University Machine Learning Foundations | AWS Certified Cloud Practitioner | Microsoft Certified: Azure Fundamentals (AZ-900)

EXPERIENCE

InComm Payments | Systems Engineer Intern

Sep 2026 - Present

- Support migration and onboarding of InComm Health clients to a new SFTP-based batch-processing platform, coordinating file-flow requirements and dependencies across enterprise teams.
- Document client data flows, transfer requirements, and operational handoffs to support reliable onboarding onto the new batch-processing platform.
- Build, test, and maintain monitoring alerts for client file workflows to improve incident detection, operational responsiveness, and platform reliability.

Cornell Tech | AI Engineer Fellow

Apr 2026 - Present

- Built and evaluated RAG, neural-network, and multimodal LLM systems across data preparation, model evaluation, and system integration.
- Translated partner requirements into production-oriented AI features and MCP workflows, emphasizing reliable system integration and measurable behavior.

IBM | Site Reliability Engineer Intern

May 2026 - Aug 2026

- Monitored distributed production systems using logs, metrics, and alerts; built Sentinel, a centralized operations platform used by 50+ engineers and managers.
- Built correlation-ID tracing across two ELK clusters plus Jira/Gemini incident automation and an MCP knowledge layer to accelerate troubleshooting and on-call workflows.
- Developed reusable Terragrunt/Terraform templates and Python automation for IBM Verify, including data cleaning and cross-zone replication workflows.
- Deployed and evaluated the OpenShift Kube Descheduler Operator in a proof-of-concept environment for workload placement and cluster optimization.

Signify | Software Engineer Intern

Jan 2026 - May 2026

- Automated build, test, artifact publishing, and deployment with Python/Bash, Bamboo CI, Docker, and Artifactory, improving development efficiency by 30%.
- Migrated on-prem workloads to AWS/Azure and designed scalable compute/storage workflows, improving build time by 40%.
- Programmed BLE Mesh embedded software in C/C++ for real-time control and state synchronization across networked devices.

Crescent Technology | AI Engineer Intern

Jul 2025 - Dec 2025

- Deployed containerized AI microservices on AWS using Docker and REST APIs across hundreds of user sessions; reduced response latency from 11-13 seconds to under 4 seconds.
- Built RAG and MCP workflows with expiring memory, reducing hallucinations by 80% and token usage by ~20% while improving production routing and reliability.
- Implemented agentic lead-capture, intent-routing, and escalation workflows with production monitoring and failure-handling considerations.

PROJECTS

Multi-Node Homelab Systems Platform | *Proxmox, Linux, Kubernetes, Docker, NVIDIA GPU, Prometheus, Grafana, MLflow*

- Built a heterogeneous multi-node platform for distributed systems and ML workloads with GPU compute, Linux VMs/LXC, cross-node services, CI/CD, and centralized observability.
- Designed dedicated GPU, compute, API, and database nodes; benchmarked distributed execution and local LLM training performance.

Production Kubernetes CI/CD & Observability Platform | *Jenkins, Docker, Terraform, AWS ECR/EKS, ArgoCD, Prometheus, Grafana, SonarQube, Trivy*

- Built a 6-stage pipeline spanning quality gates, CVE scanning, Docker packaging, ECR publishing, EKS deployment, GitOps rollback, and Route 53 routing.
- Provisioned AWS infrastructure with Terraform and deployed Prometheus/Grafana monitoring for real-time cluster visibility.

Redis Clone | *C/C++, TCP Networking*

- Implemented a low-latency in-memory database with a custom TCP protocol, TTL expiration, event-loop execution, and systems-focused request handling.

LEADERSHIP & OPEN SOURCE

ColorStack | Co-founded the GSU chapter supporting Black and Latinx CS students through technical and career programming.

Open Source | Contributed 13+ pull requests across 10+ repositories focused on infrastructure, automation, and developer tooling.

Shakur Heating and Air | Led technical operations and digital systems for a residential HVAC business.