

LEMUEL AGUR MENSAH

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EDUCATION

Michigan State University - East Lansing, MI, USA **Major:** Computer Science **Minor:** Business **Graduating** May 2026
Honors: Dean's List, Playmakers Scholarship, ASMSU Scholarship
Relevant Coursework: Databases, Data Structures, Computer Systems Organization, Algorithms, Machine Learning, Operating Systems, Computer Networks, Computer Security, Mobile App Development, OOP.

WORK EXPERIENCE

TaskForge Platforms - Software Engineer | Independent Project **May 2025 - Dec 2025**

- Designed and implemented a distributed asynchronous job processing system supporting 10K+ concurrent tasks, using Redis-backed queues and worker pools.
- Built fault-tolerant execution with automatic retries, exponential backoff, dead-letter queues, and idempotent APIs, improving job success rate by 35% under simulated failure conditions.
- Integrated Prometheus and Grafana observability, tracking job latency, throughput, and failure rates, which uncovered bottlenecks and allowed faster issue resolution, improving overall system performance during load testing.

DeployMate Cloud Solutions - Software Engineer Intern **Jan 2025 - May 2025**

- Designed a 6-stage CI/CD pipeline (GitHub Actions) automating build, test, security scans, and deployment to AWS ECS Fargate, reducing deployment time to under 5 minutes.
- Provisioned production AWS infrastructure using 300+ lines of CloudFormation (VPC, ALB, Auto Scaling, ECS) to support scalable, zero-downtime deployments.
- Containerized services using Docker multi-stage builds and non-root users, reducing image size by 40% and improving security posture.

FusionQuant Systems - Platform Engineer Intern **Jan 2024 - May 2024**

- Designed a microservices architecture separating ingestion, prediction, and API services using FastAPI and Docker, enabling independent scaling and easier maintenance.
- Built data pipelines integrating external APIs into PostgreSQL with Redis caching, reducing response latency by 45%.
- Developed REST APIs serving real-time predictions and system metrics to downstream services.

MSU NLP & Systems Lab - Software Engineer | Research Assistant **Aug 2022 - Aug 2023**

- Integrated NLP models into research workflows via Python REST APIs, streamlining deployment and reducing experiment setup time.
- Implemented modular pipelines with versioning, testing, and documentation to improve experiment reproducibility.

SKILLS AND PROFICIENCIES

- **Programming languages:** Python, C++, Java, C, JavaScript, OCaml, Hack/PHP, Swift, TypeScript.
- **Experience with** FastAPI, Django, Flask, Node.js, MongoDB, PostgreSQL, SQLite, React, HTML, CSS, Figma, GraphQL.

PROJECTS

Shield-API | FastAPI, Redis, Docker

- API rate-limiting and abuse-prevention service implementing token-bucket throttling and request tracking. [link](#)

DormSwap | JS, Node.js, MongoDB, Firebase,

- Mobile-responsive marketplace application for buying and selling products with Firebase authentication. [link](#)

Flag-Ship | FastAPI, PostgreSQL, Docker

- Backend feature-flag management service enabling dynamic configuration and percentage-based rollouts. [link](#)

VOLUNTEER WORK

Girls Who Code, Instructor

Jan 2023 - Present

- Offer programming tutorials and mentorship to aspiring female developers and students in East Lansing.