

OKELLO ELLY

Software Developer & Systems Architect | Scalable Systems • Full-Stack Engineering • Cybersecurity
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SUMMARY

Software Developer and Systems Architect with hands-on experience delivering scalable, secure, production-grade software systems. Skilled in full-stack development, backend architecture, authentication systems, database design, networking, and cybersecurity. Experienced in building high-reliability platforms with strong focus on performance, maintainability, and secure system design. Proficient in AI-assisted development and data-driven engineering, consistently solving complex real-world software challenges.

EDUCATION

Bachelor of Science in Computer Software Engineering

Zetech University — Jan 2025 – Nov 2027

Core Technical Focus:

- ❖ Software Development (C, C++, JavaScript, Python)
 - ❖ Backend Engineering & REST API Design
 - ❖ Database Management (MySQL, SQLite)
 - ❖ System Analysis & Architecture
 - ❖ Secure Systems & Authentication (JWT, RBAC)
 - ❖ Networking Fundamentals & Junior Network Engineering
 - ❖ Data Science & Analytics Concepts
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SOFT SKILLS

- ❖ Leadership & Team Collaboration
 - ❖ Technical Communication
 - ❖ Problem Solving & Critical Thinking
 - ❖ Strategic Thinking & Initiative
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PROJECTS

BIT System — Backend Developer & System Architect

Technologies: Python (Flask), MySQL, SQLite, JWT Authentication, REST APIs, HTML/CSS

Timeline: 2024 – Present

- ❖ Designed and implemented a secure backend platform supporting student services, event management, payments, and analytics.
 - ❖ Engineered REST APIs with JWT authentication and role-based access control, strengthening platform security and access governance.
 - ❖ Designed normalized relational database schemas, improving query efficiency and system scalability.
 - ❖ Integrated backend services with administrative dashboards and operational tools, enabling real-time system insights.
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LearnLight — Software Developer

Technologies: React, JavaScript, APIs, Backend Services

- ❖ Contributing to development of an interactive digital learning platform focused on structured online education.
 - ❖ Implementing modular frontend components, backend logic, and API integrations for scalable course delivery.
 - ❖ Improving performance, usability, and maintainability through clean architecture and best engineering practices.
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Mobi — Software Developer & System Architect (In Progress)

Technologies: React, JavaScript, APIs, Backend Services

- ❖ Architecting a multi-modal transport platform integrating public minibuses (matatus), ride-hailing services, and campus shuttles.
 - ❖ Implementing real-time vehicle tracking, secure digital payments, and commuter personalization features.
 - ❖ Optimizing backend services for scalability and reliability, reducing simulated system latency by up to 30%.
 - ❖ Designing modular system architecture enabling expansion to additional cities and transport providers.
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SmartWaste — Software Developer

Technologies: Python, Flask, MySQL, REST APIs, Data Analytics Concepts

- ❖ Developed a data-driven waste management platform for improved waste collection tracking and operational visibility.

- ❖ Built backend APIs to record, manage, and analyze waste collection data.
 - ❖ Designed relational database schemas supporting structured reporting and analytics.
 - ❖ Improved operational insight and decision-making through structured data collection and analysis.
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CERTIFICATIONS & TECHNICAL COMPETENCIES

- **Introduction to Modern AI — Cisco Networking Academy (2026)**

Foundations of artificial intelligence, AI systems, machine learning concepts, AI applications

- **Junior Cybersecurity Analyst — Cisco Networking Academy**

Threat analysis, vulnerability assessment, security controls, SOC fundamentals

- **Huawei Computer Networks (CRA Training Program) Certification**

Network architecture, TCP/IP, routing & switching, troubleshooting

- **Cisco Certified Cybersecurity Essentials**

Cyber risk management, secure access control, incident response

- **Data Science & Analytics — HP LIFE (2025)**

Data analysis, visualization, reporting, analytical thinking

- **AI Fluency: Framework and Foundations — Anthropic**

Prompt engineering, AI workflows, AI-assisted software development

- **SEO — HubSpot Academy (2025)**

Search optimization, analytics, performance tracking

- **Content Marketing — HubSpot Academy (2024)**

Content strategy, audience growth, digital storytelling

- **Digital Marketing — HubSpot Academy (2024)**

Campaign strategy, social media analytics, conversion optimization

ADDITIONAL INFORMATION

- ❖ Actively building production-level software systems addressing real-world engineering problems.
- ❖ Secretary of the Innovation Club at Zetech University, contributing to innovation and technology initiatives.
- ❖ Experienced in leading engineering projects and collaborative technical teams.
- ❖ Committed to continuous learning, engineering excellence, and building impactful technology solutions.