Webster C. Elumelu

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Profile

Software engineer and security researcher focused on AI security evaluation, authentication, and reproducible test infrastructure. Backend and full-stack experience in fintech (Java Spring Boot, Python, Go). Recent work includes LLM attack simulation, benchmark design, and mitigation reporting.

Core Skills

Backend: Python (Django, FastAPI), Java (Spring Boot, Gradle), Go, C/C++, Rust, REST APIs, microservices, PostgreSQL, Oracle, MySQL, MongoDB
Security: MFA, OAuth 2.0, RBAC, audit logging, malware detection, LLM attack simulation, vulnerability reporting
Infrastructure: Docker, Kubernetes, Terraform, Ansible, Proxmox, GitHub Actions, CI/CD, GCP
Frontend: React, Vue.js, TypeScript

Experience

UX / Software Engineer, 78 Financials (Payaza & Rove10) Lagos, NG
Jan 2025 - Present

- Built and maintained Spring Boot REST APIs and microservices for Transfer and Bills Payment, with OAuth, RBAC and audit logging.
- Built Payaza Give end to end, including multi-currency settlement, onboarding and link-creation workflows.
- Built MFA and Google OAuth integrations using FingerprintJS; designed multi-tenancy for white-labeled merchant and back-office apps.
- Debugged client integrations and optimised database queries across PostgreSQL, Oracle, MySQL and MongoDB.
- Helped design and build the platform Payaza used for the Dangote IPO (14 Sep - 27 Oct 2026), an open offer later extended to Nigerians and non-Nigerians in the diaspora; over 2.79 million shares (over NGN 1.46 billion) were sold through it.
- On the IPO platform: built the client side and ran A/B tests, owned the admin panel, agreed API contracts with the backend team, designed multi-tenant deployments for different brokers, and did a large share of the design system.

Research Assistant (Systems & Infrastructure), LaBackDoor Cybersecurity Research Lab
Jun 2023 - Present

- Automated provisioning of 30+ virtualised lab environments (Terraform, Ansible, Proxmox).
- Built an access-control framework (AW-TRBAC) for large distributed NoSQL databases.
- Built distributed Python network-analysis systems and a Rust networking stack; prototyped an LLM-driven agentic system for finding and fixing software vulnerabilities.

CyberSecurity AI Trainer, micro1 Remote
Dec 2024 - Jan 2026

- Built training data and evaluation benchmarks for AI models in the cybersecurity domain, emphasising repeatable assessment.
- Simulated multiple attack vectors against large language models in a Docker-based VM environment; documented vulnerabilities, failure modes and mitigations.

Frontend Engineer, KNG Technologies New York, USA
Nov 2022 - Aug 2024

- Built React and TypeScript components for internal and client-facing products; standardised technical documentation.

IT Support, Niger Delta Power Holding Company Abuja, NG
Jan 2024 - Oct 2024

- Supported malware detection, protection and enterprise hardware troubleshooting.

Undergraduate Researcher, Webster University Research Lab Mar 2020 - Dec 2022
Contributed to published research on vulnerability forecasting and AI-based threat detection.

Publications

Published

- Predicting Software Vulnerability Trends with Multi-Recurrent Neural Networks: A Time Series Forecasting Approach, ACL Anthology (NLPAICS 2024)
- A Unified Framework Incorporating AW-TRBAC and Semantic Variational Autoencoders for Dynamic Threat Detection and Access Control, International Conference on Artificial Intelligence 2025

Preprints / Under Review

- Autonomous System Vulnerability Remediation: A Survey of Agentic AI, Reinforcement Learning, Benchmarks, and Operational Safety
- SysRepair-Bench: A Benchmark for AI Agents' Ability to Remediate Real-World System Vulnerabilities
- SysRepair: A Benchmark and Multi-Architecture Approach to Autonomous Vulnerability Remediation

Education

Georgia Institute of Technology, Atlanta, GA, USA — Expected Dec 2027
M.S. in Computer Science, Computing Systems

Webster University, Saint Louis, MO, USA — Jan 2019 - Dec 2022
B.S. in Computer Science, Minor in International Relations