

MWOMBE MICHAEL CHITIAVI

BACKEND ENGINEER · FULL-STACK DEVELOPER · DATA ANALYST

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PROFESSIONAL SUMMARY

Backend and full-stack developer with a strong foundation in Mathematics and Computer Science (Maseno University). Experienced in designing and deploying scalable RESTful APIs, distributed systems, and database-driven applications using Node.js, ASP.NET Core, React, PostgreSQL, and MongoDB. Deep interest in fintech infrastructure, cybersecurity, and data-driven engineering — with a focus on clean architecture, fault tolerance, and secure development practices.

TECHNICAL SKILLS

Languages	C#, JavaScript, TypeScript, Python, PHP, SQL, Java
Frontend	React.js, HTML5, CSS3, Tailwind CSS, Bootstrap
Backend	Node.js, ASP.NET Core, Spring Boot, Django, PHP
Databases	PostgreSQL, MongoDB, MySQL, Firebase, SQL Server
Tools	Git, GitHub, Docker, Postman, Figma, VS Code, Power BI, Advanced Excel
Concepts	REST APIs, JWT Auth, MVC, Distributed Systems, Secure Coding, Pen Testing, IoT

PROJECTS

Distributed Payment Processing System

2026 — In Progress

[NestJS](#) [PostgreSQL](#) [RabbitMQ](#) [Redis](#) [Docker](#) [TypeScript](#)

- Designing a fault-tolerant distributed payment infrastructure with idempotent APIs and an immutable append-only ledger.
- Implementing asynchronous queue-based payment workflows with retry handling and dead-letter queues via RabbitMQ.
- Building secure webhook ingestion with HMAC signature verification and replay attack prevention.
- Engineering full-auditability event timelines supporting event replay and compliance reporting.

E-Commerce Web Store (Sanaa Ya Kenya)

2024

[React](#) [ASP.NET Core](#) [MySQL](#) [JWT](#) [M-Pesa Daraja API](#)

- Built a full-stack e-commerce platform with secure JWT authentication, order tracking, and mobile-responsive UI.
- Integrated M-Pesa Express (STK Push) to support real-world Kenyan mobile payment workflows.
- Developed modular backend APIs with client-side validation for secure, robust checkout processing.

Task Management REST API

2024

[Node.js](#) [MongoDB](#) [JWT](#) [Express](#)

- Designed a JWT-secured REST API supporting agile team task lifecycle management with workspace isolation.
- Applied structured request validation, modular routing, rate limiting, and centralized error handling.
- Documented all endpoints using Postman collections to support frontend and third-party integrations.

Kenya Economic SQL Analysis

2025

[PostgreSQL](#) [SQL](#) [CTEs](#) [Window Functions](#) [World Bank Data](#)

- Wrote 15 advanced SQL queries on 24 years of World Bank economic data — covering GDP, inflation, stagflation signals, and trade balance.
- Employed window functions (RANK, LAG, SUM OVER), CTEs, UNION ALL, and composite scoring to surface actionable macroeconomic insights.
- Delivered a full GitHub repo with dataset CSV, query file, and a detailed README with findings and setup instructions.

Cybersecurity Audit & Penetration Testing

2023

[OWASP ZAP](#) [Burp Suite](#) [DVWA](#) [Nmap](#)

- Conducted structured OWASP Top 10 vulnerability assessments on DVWA test environments.
- Documented findings with severity ratings and remediation recommendations in a professional audit report.

Custom Portfolio Website

2024

[HTML/CSS](#) [JavaScript](#) [Bootstrap](#) [Vercel](#)

- Designed and deployed a responsive portfolio showcasing projects, skills, and engineering experience.
- Implemented smooth navigation, filterable project grid, animated sections, and Font Awesome icons.

EDUCATION

Bachelor of Science — Mathematics & Computer Science

2021 – 2026 (Expected)

Maseno University, Kenya

- Core areas: data structures, algorithms, OOP, statistical analysis, and software engineering principles.
- Academic interests: distributed systems, scalable backend architecture, and predictive modelling.

CERTIFICATIONS

IBM SkillsBuild Certification

2023

IBM

Advanced Data Analytics Specialization

2023

Google / Coursera

EXTRACURRICULAR & INTERESTS

- Member, Google Developer Student Clubs (GDSC) — Maseno University Chapter.
- Active participant in hackathons and open-source contributions on GitHub.
- Areas of interest: fintech systems, backend infrastructure, AI-driven development, and smart home IoT.

LANGUAGES

English — Fluent Kiswahili — Fluent

Available for part-time & full-time roles · Open to relocation · Nairobi, Kenya