(resume.pdf)

# **JULIUS OKWE**

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Calabar

#### **ABOUT**

I'm a curious problem-solver bridging the worlds of science and technology. With a foundational background in Biochemistry and formal training from the ALX Africa Software Engineering program, I bring a unique analytical perspective to software development. Currently contributing to a South African startup revolutionizing waste management, I thrive at the intersection of backend systems and real-world impact. My passion lies in building scalable solutions while continuously expanding my expertise into fullstack development.

## **WORK EXPERIENCE**

# Software Engineer at Wastedump, Johannesburg, South Africa

2024 - present

- Created and maintained back-end API services using NestJS.
- Tasked with implementing Yoco payment gateway
- Tasked with integrating email services API for system-wide transactional email feature

# Python with Raspberry Pi Educator at National Centre for Artificial Intelligence & Robotics

2024 - 2024

- Guided students in Python programming by building interesting projexts with Raspberry Pi.
- Provided tailored feedback to enhance coding comprehension and performance.

### Inventory and Weighbridge Manager at Releaf Africa, Cross River, Nigeria.

2021 - 2023

- Managed inventory systems, optimizing material workflows and dispatch accuracy.
- Led weighbridge operations, ensuring detailed tracking of raw material receipts.
- Operational Oversight: Manage daily logistics operations, including transportation planning, route optimization, and timely delivery of goods.
- Weighbridge Management: Supervise weighbridge activities, ensuring precise vehicle weighing, accurate documentation, and compliance with legal standards.
- Regulatory Compliance: Safety, and environmental regulations for logistics and weighing processes.
- Record-Keeping: Maintain detailed records of shipments, weights, and transactions for audits and reporting.

#### VOLUNTEER EXPERIENCE

Medical Records Officer at First Referral Hospital, Mutum Biyu.

2018 - 2020

Helped with medical records and information management for over 10,000 in and out patients.

Logistics Manager at Nissis Vessels and Raphas Hands Foundations 2018 - 2018

Managed logistics and medical supplies at a free medical outreach to a Refugees camp for displaced Cameroonians in Cross River State.

## **PROJECTS**

#### **Cryptocurrency Portfolio Tracker**

Designed and developed a full-stack cryptocurrency portfolio management application for real-time investment tracking. Tech Stack: React, NestJS, TypeScript, MongoDB, Redis, Docker, Material UI, Chart.js, BullMQ, Jest.

- Built a modern, responsive frontend using React and Material UI, featuring interactive data visualizations with Chart.js and Recharts for portfolio performance, asset allocation, and historical analysis.
- Engineered a robust backend with NestJS and TypeScript, implementing secure JWT-based authentication, role-based access control, and 2FA for enhanced security.
- Integrated real-time market data from multiple crypto APIs and supported automated balance updates, CSV import/export, and exchange API integration.
- Leveraged MongoDB and Redis for efficient data storage and caching, and BullMQ for background job processing.
- Implemented comprehensive testing using Jest and Cypress, ensuring high code quality and reliability.
- Containerized the application with Docker and orchestrated services using Docker Compose, demonstrating DevOps proficiency.
- Followed best practices in code quality with ESLint, Prettier, and TypeScript, and maintained scalable, maintainable codebases across both frontend and backend.

#### Terminal Text Editor in C

Designed and implemented a lightweight terminal-based text editor in C, inspired by the 'kilo' editor.

- Developed robust terminal I/O handling using low-level POSIX APIs (termios, ioctl, unistd), enabling raw mode input, real-time keypress processing, and dynamic screen rendering.
- Engineered custom screen drawing routines for efficient, flicker-free updates and responsive user experience.
- Implemented cross-platform window size detection and cursor positioning logic, ensuring compatibility across various terminal environments.
- Applied strong debugging and error-handling practices, including graceful recovery from system call failures.
- Demonstrated expertise in systems programming, memory management, and Unix/Linux development tools.

#### BenefitsHub Nigeria

Designed and developed a full-stack web application connecting Nigerian citizens with government benefits, featuring user authentication, profile management, benefit listings, and an admin dashboard. Tech Stack: Python, Flask, SQLAlchemy, HTML, CSS, JavaScript, Bootstrap, SQLite/PostgreSQL, Git.

- Engineered robust backend services using Flask and SQLAlchemy ORM, implementing RESTful routes, secure authentication, and role-based access for citizens and government agencies.
- Built responsive, user-friendly interfaces with HTML, CSS, JavaScript, and Bootstrap, ensuring accessibility and seamless experience across devices.
- Integrated search, filtering, and application workflows, enabling users to efficiently discover and apply for government benefits.
- Automated deployment and managed environment configuration, leveraging best practices in version control (Git), database migrations, and environment management.
- Centralized access to government benefits for Nigerian citizens, streamlining the application process and improving transparency.
- Demonstrated ability to deliver end-to-end solutions, from requirements gathering to deployment and user support.

#### Real-Time Collaborative Document Editor

Designed and developed a full-stack real-time collaborative document editing platform, enabling multiple users to edit documents simultaneously with instant updates and conflict resolution. Tech Stack: Node.js, Express, Socket.io, Prisma, PostgreSQL, JWT, React, Jest.

- Architected a scalable backend using Node.js, Express, and Prisma ORM, implementing efficient document versioning and optimistic concurrency control to ensure data consistency during concurrent edits.
- Engineered real-time communication with Socket.io, supporting room-based broadcasting and low-latency synchronization of document changes across all connected clients.
- Implemented secure JWT-based authentication and role-based access control, safeguarding user sessions and document access.
- Developed a modern, responsive frontend with React, providing intuitive document editing and real-time collaboration features.
- Wrote comprehensive automated tests with Jest to ensure reliability and maintainability of both backend and real-time features.
- Followed best practices in code quality, modular architecture, and error handling, resulting in a robust and maintainable codebase.

## **EDUCATION**

University of Calabar (edu.url)

Honour: Bachelor of Science in Biochemistry Location: Calabar, Cross River State, Nigeria.

Graduation Date: 2016

ALX Africa (edu.url)

Honour: Certification in Software Engineering Programme

Location: Nairobi, Kenya Graduation Date: 2025

# **LANGUAGES**

# **English languages**

Native

# **REFERENCES**

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