Chukwuma Emmanuel

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SUMMARY

- Software Engineer with Mechatronics background who optimized system performance by 70% and reduced deployment times by 60% through CI/CD automation
- Proactive team player who led mission-critical applications processing 10,000+ daily transactions with 99.9% reliability
- Self-starter who integrated cross-platform payment solutions while adapting quickly in Agile/Scrum environments
- Flexible problem-solver combining technical expertise with strong communication skills to deliver high-impact results

EDUCATION

Federal University Of Technology – Owerri, Nigeria   **September 2018 – February 2024**
BENG, Mechatronics Engineering

ALX Software Engineering – Remote   **August 2022 – January 2024**
Software Engineering

WORK EXPERIENCE

Software Engineer (IOT)   **April 2022 - February 2025**
Smart World Research Hub – Owerri, Nigeria
- Engineered energy monitoring IoT solution by developing the critical bridge between physical sensors and Firebase middleware, transforming raw sensor data into structured formats while implementing MATLAB models for data analysis
- Led Arduino-based weather prediction system integrating C++, Python, and Firebase with 85% accuracy through machine learning algorithms and light intensity sensors
- Developed real-time analytics backend with FastAPI that processes sensor data via MQTT, containerized with Docker and TimescaleDB for handling 1000+ IoT device connections
- Engineered Cardioll heart monitoring system achieving 98% accuracy by optimizing C++ algorithms on ESP32 for real-time data processing, extracting features to detect arrhythmias with <50ms latency before transmission to Firebase for dashboard visualization

Software Engineer (PHP)   **September 2024 - December 2024**
ClincoHealth – Remote
- Designed and configured a secure, high-performance web server for Clinco Health's Laravel-based platform, improving uptime to 99.9%.
- Developed deployment automation scripts, implementing CI/CD pipelines that reduced deployment time by 70% and minimized manual errors.
- Integrated monitoring and logging systems to track server performance, cutting troubleshooting time by 50%.
- Optimized workflow automation, reducing manual intervention by 80% and accelerating feature rollout cycles.

Software Engineer (PHP)   **April 2024 - March 2025**
Paywifigo – Remote
- Engineered PHP-based business analytics dashboard reducing financial reporting time by 60% for 50+ merchants
- Implemented 8 interactive data visualization modules tracking revenue, expenses, and profit margins in real-time
- Designed 5 key user workflows resulting in 30% improvement in merchant task completion rate

Backend Engineer (Python)   **June 2024 - August 2024**
HNG Internship – Remote
- Architected industry-standard TOTP 2FA authentication system at HNG, enhancing security for 1000+ potential users
- Developed 6 RESTful endpoints with role-based access control, increasing project functionality by 25%
- Contributed 1000+ lines of production code and resolved 8 high-priority issues for FastAPI Boilerplate project
- Engineered YouTube Summarizer backend with FastAPI and Celery queuing system, integrating OpenAI's Whisper for transcription and LangChain for context-aware summarization through optimized prompt engineering

VOLUNTEER ACTIVITIES

Backend Engineer(Python), MKE Verein   **December 2024 - February 2025**
Volunteered with MKE Verein to implement dual-currency donation system integrating Stripe for fiat and BitPay for crypto transactions, increasing donation accessibility by 40%

Projects

Adfriend   **Link** | **Demo**
- Developed AdFriend Chrome extension using React, Vue, and TailwindCSS that replaces website advertisements with motivational quotes and daily reminders
- Engineered content replacement algorithm that seamlessly integrates with existing webpage DOM structures while maintaining page integrity
- Implemented user preference system allowing customization of replacement content types with persistent settings across browsing sessions

Cheaper Phone   **Link**
- Architected full-stack e-commerce application (Cheaper Phone) using Flask, jQuery, and SQLAlchemy, deployed with Docker Compose on Ubuntu VM while implementing Nginx and ystemd for service management
- Designed RESTful API endpoints enabling dynamic frontend updates and seamless database integration using a top-down approach that prioritized modular component architecture

File Manager   **Link**
- Developed secure file-sharing API using Express, MongoDB, and Redis with robust user authentication that implements efficient pagination and background processing through a queuing system
- Implemented comprehensive unit and integration testing achieving 90% code coverage while optimizing file operations for rapid access and minimal storage footprint
- Engineered Redis-based caching layer reducing API response times by 60% and improving overall application performance for high-volume file transfers

Monty   **Link**
- Developed Monty stack-based interpreter in C that processes custom bytecodes, implementing both LIFO stack and FIFO queue data structures with memory-efficient allocation
- Created robust error handling system detecting over 15 different error types with descriptive messages for efficient debugging of bytecode operations
- Implemented 20+ bytecode operations including mathematical functions, string manipulations, and stack transformations with optimized execution flow

SKILLS

Programming Languages	Web Frameworks	Database Management
Python, Javascript, C, C++, PHP	*Express, Fastapi, Flask, Laravel, React, vue*	*Mongodb, MySQL, PostgreSQL*
Devops	**Version Control**	**Embedded System**
Ubuntu, CICD, Github Actions, Bash Scripting	*Git, Github*	*C++, C, ESP, Arduino, Microcontrollers*

INTERESTS

AI & Machine Learning	Blockchain Technology

LANGUAGES

Igbo - Native	English - Expert