

Joseph Anyaegbunam

Backend Engineer | Full-Stack | Blockchain | Distributed Systems

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PROFILE

Backend Engineer with strong Python expertise and hands-on experience designing production-grade distributed systems, scalable APIs, and async processing architectures. Skilled in secure data handling, containerisation, CI/CD, and modern development practices including TDD. Full-stack capable, with a primary focus on backend engineering. Experienced in smart contract development and DeFi protocol design using Solidity and Foundry. MSc Information Technology, Distinction — Best Graduating Student.

TECHNICAL SKILLS

Data & ETL	Python, ETL pipeline design, PostgreSQL, Redis, Celery, MinIO (S3-compatible), PySpark (working knowledge), pandas, NumPy, scikit-learn
Backend	FastAPI, SQLAlchemy (async), Pydantic, RESTful APIs, JWT auth, Node.js, WebSockets
DevOps & Infra	Docker, Docker Compose, GitHub Actions (CI/CD), Nginx, Linux, VPS environments, Kubernetes
Testing & Quality	pytest, Foundry test suites, TDD, integration and edge-case testing
Web & Frontend	TypeScript, React, Next.js
Blockchain	Solidity, Foundry, DeFi protocols, EIP-2535 (Diamond), UUPS, Viem, Ethers.js

PROFESSIONAL EXPERIENCE

Blockchain Developer (Intern) | MyAI | USA (Remote) | 2025/07 – 2026/01

- Designed and implemented a multi-token batch redemption system on a live reward protocol, introducing a centralized accounting source of truth to track token swap state across multiple smart contract components.
- Architected a batch settlement mechanism enabling users to combine reward tokens in a single transaction, reducing gas costs and eliminating sequential conversions.
- Extended protocol functionality using EIP-2535 (Diamond Standard) with minimal disruption to existing integrations
- Built comprehensive Foundry test suites covering the existing system prior to implementation, with full edge case coverage including partial redemptions and mixed token combinations.

Full Stack Developer | Livingstones Off-the-Street Initiative | Lagos, Nigeria | 2024/03 – 2025/03

- Led end-to-end development of a platform handling sensitive personal data — donor records, youth beneficiary information, school sponsorship tracking, and mentor-mentee scheduling — for an NGO supporting at-risk youth.
- Designed a structured PostgreSQL schema with role-based access control (RBAC) to enforce secure, scoped data access.
- Built automated financial workflows integrating payment gateways, reducing manual reporting effort by 60% and providing leadership with real-time visibility into programme performance.

- Delivered a scalable REST API and React-based admin platform enabling non-technical staff to manage content, update the public-facing website, and programme data without developer

SELECTED PROJECTS

ReportFlow — Async ETL Data Processing & Reporting Pipeline

Python, FastAPI, Celery, Redis, PostgreSQL, MinIO, Docker, GitHub Actions | [Github](#)

- Designed and built an end-to-end ETL pipeline: extracting tenant-scoped data from PostgreSQL, transforming it through aggregation and business logic, and loading formatted PDF outputs into MinIO object storage.
- Architected a distributed multi-worker Celery task queue with priority-based job lanes, handling dozens of concurrent jobs across isolated tenants without performance degradation.
- Implemented production-grade reliability: exponential backoff retries, idempotency key checking across Redis and PostgreSQL, rate limiting, and real-time job progress via WebSocket (Redis pub/sub).
- Containerised the full stack using Docker Compose and configured a GitHub Actions CI pipeline for automated testing and linting on every pull request.

Isolated Lending Market Protocol

Solidity, TypeScript, Next.js, Foundry | [Github](#) | [Website](#)

- Developed an isolated lending protocol with MEV-resistant liquidation and dual-source oracle design
- Reduced deployment costs by ~95% using minimal proxy pattern (EIP-1167) with strong test coverage

Crowdfunding Application

Next.js, Solidity, TypeScript | [Github](#) | [Website](#)

- Built a full-stack decentralised application handling secure transaction flows and validation logic

ADDITIONAL EXPERIENCE

Studio Owner & Audio Engineer (Self-Employed) | Lagos 2016/06 – 2022/08

- Managed and operated a recording studio as primary source of income, delivering end-to-end production projects for clients
- Coordinated sessions, client relationships, and delivery timelines while maintaining consistent output quality

EDUCATION

MSc Information Technology — Distinction | Robert Gordon University, Aberdeen, UK | 2022 – 2023 (*Best Graduating Student Award, School of Computing*)

BSc Electrical & Electronics Engineering | Igbinedion University, Okada, Nigeria | 2006 – 2011

CERTIFICATION & PROFESSIONAL DEVELOPMENT

- CS50's Introduction to Artificial Intelligence with Python — Harvard University (edX), 2025
- Certified Kubernetes Administrator (CKA) — In Progress