

Chukwuemeka Jonas

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PROFESSIONAL SUMMARY

Data engineering enthusiast with a biology background and around two years of hands-on web development experience. Build data pipelines covering ingestion, ETL, storage, and scheduling with Airflow, and comfortable taking data from extraction through to serving it with FastAPI. Currently building core data engineering skills through a bootcamp and self-directed projects.

TECHNICAL SKILLS

Data Engineering: Apache Kafka, Apache Airflow, ETL/ELT Pipelines, TimescaleDB, PostgreSQL, SQLite, MySQL, MinIO, Qdrant

AI and GenAI: Prompt engineering, retrieval-augmented generation (RAG), vector embeddings, LLM API integration, AI-assisted development

Programming: Python, SQL, JavaScript, TypeScript

Frameworks and Tools: FastAPI, Streamlit, Docker, Docker Compose, React, Git

Currently Learning: dbt, AWS (S3, Redshift)

PROJECTS

BioStreamer - Hybrid Data Platform for Anaerobic Digestion Research

Python, Airflow, PostgreSQL, Qdrant, MinIO, FastAPI, Streamlit, Docker | github.com/jonascodes15/biostreamer

- Built a hybrid data platform that models daily telemetry (pH, volatile fatty acids, alkalinity, biogas yield) for 100 simulated bioreactor lines, grounded in a peer-reviewed co-digestion study I co-authored
- Designed two ingestion tracks orchestrated by Airflow: a structured track landing telemetry as Parquet in MinIO and loading it into PostgreSQL, and an unstructured track that chunks and embeds research literature into a Qdrant vector store
- Added Airflow validation gates that fail closed unless the reference reactors reproduce the study's published yields within tolerance (maximum deviation 0.042 ml/day)
- Built a FastAPI service with a hybrid endpoint that combines SQL aggregates with vector search, served through a Streamlit dashboard, and degrading gracefully when no language model key is set

AgroPulse - Precision Agriculture Data Platform

Python, Kafka, Airflow, TimescaleDB, FastAPI, React, TypeScript, Docker | github.com/jonascodes15/agropulse | [Live: agropulsehq.netlify.app](https://agropulsehq.netlify.app)

- Built an end-to-end agriculture data platform that streams simulated soil moisture, canopy temperature, nitrogen, and irrigation sensor readings through Kafka (Redpanda) into TimescaleDB for real-time and historical analysis
- Designed and implemented a nightly Airflow DAG that recomputes yield forecasts from accumulated sensor data on a schedule, removing the need for manual intervention between runs
- Built a FastAPI serving layer exposing processed readings to a React and TypeScript dashboard with live Recharts visualizations, completing the full ingestion-to-UI data path
- Containerized all five services (sensor producer, ETL consumer, TimescaleDB, Airflow, API) with Docker Compose so the entire stack spins up with a single command

BioFlow IoT - Real-time Bioreactor Telemetry Pipeline

Python, Kafka, PostgreSQL, FastAPI, React, Docker | github.com/jonascodes15/bioflow_iot

- Built a real-time IoT telemetry pipeline that continuously streams bioreactor sensor readings (flow rate, temperature, pH) from a Python simulator through Kafka into a normalized PostgreSQL schema with timestamp indexing for efficient range queries
- Exposed stored telemetry through FastAPI endpoints serving the 50 most recent records and a latest-reading endpoint, enabling a React dashboard to display live metrics with 1.5-second polling
- Containerized the full four-service stack (simulator, Kafka, consumer, API) with Docker Compose for portable, reproducible deployment

API to SQL ETL Pipeline

Python, SQLite, Docker | github.com/jonascodes15/api-to-sql-etl-pipeline

- Built a containerized ETL pipeline that extracts user profiles from a live REST API, flattens deeply nested JSON responses, standardizes field formatting, and loads clean structured records into a SQLite warehouse
- Implemented UPSERT logic (ON CONFLICT DO UPDATE) to make the pipeline idempotent, eliminating duplicate records on repeated runs without any manual cleanup

- Designed a three-phase modular architecture (extract, transform, load) orchestrated by a central entry point, keeping each concern isolated and independently testable

WORK EXPERIENCE

Founder | Weblanda, Lagos

July 2026 - Present

- Founded and built Weblanda, a multi-tenant e-commerce platform giving Nigerian small businesses real online stores with checkout, delivery, and a phone-manageable seller dashboard
- Built the full platform with Next.js, Supabase (PostgreSQL) and Vercel, with each seller's store running on its own subdomain
- Integrated Paystack subaccounts so sellers are paid directly into their own accounts with no platform cut on sales
- Onboarded the first sellers across fashion, handmade accessories, furniture, and gadgets, and set up their storefronts

Web Development Intern | tippified, Lagos (Hybrid)

June 2025 - June 2026

- Developed and maintained responsive web application components with React, JavaScript, HTML5 and CSS3 on the front end, and Node.js and Express on the back end
- Designed and integrated RESTful APIs and managed relational database schemas (MySQL/PostgreSQL) for smooth client-server data flow
- Built mobile-first, cross-browser interfaces, managed code with Git and GitHub, and deployed on Vercel, Render and Netlify, working with senior developers to debug and optimize performance

Research Assistant | FeedNutr Limited, Ogun State

October 2024 - July 2025

- Supported Black Soldier Fly (BSF) colony rearing, managing feeding schedules and environmental control for larvae production
- Prepared substrate from local organic waste streams (agricultural by-products, plantain and bean peels) to optimize larval growth and bioconversion efficiency
- Logged daily biomass yield, bioconversion rates, and feed-intake metrics, and maintained hygiene, biosecurity, and sanitation protocols across rearing modules and lab equipment

Community Manager | Web3 Communities, Remote

February 2021 - April 2024

- Managed and grew active developer and Web3 communities on Discord and Telegram through organized AMAs, campaigns, and events, maintaining consistently high engagement and retention

Director of Welfare | Student Union Government, FUTO, Owerri

September 2019 - 2020

- Started a food safety initiative and led a joint task force of the Directorate of Welfare and the Man O' War FUTO Command, with the support of the Dean of Student Affairs, Prof. C.E. Orji, and university management
- Inspected shops and vendors across the FUTO community and removed expired food items, drinks and eatables after the COVID-19 break and during long session breaks
- Worked with the Rotaract Club of FUTO (District 9142) to run free on-campus health screening and wellness awareness for students
- Led a campus-wide cleanup and hygiene sensitisation campaign, and managed welfare budgeting, logistics, and student grievances directly with university management

EDUCATION

Bachelor of Technology (BTech), Biology | Federal University of Technology, Owerri

2017 - 2023

CERTIFICATIONS AND TRAINING

- Data Engineering Bootcamp (in progress) - 2026
- National Youth Service Corps (NYSC) - October 2023 to October 2024
- Udemy Web Development Bootcamp - 2024
- Hands-on Molecular Biology Training (Laboratory Techniques) - May 2026

PUBLICATIONS

Effects of Slurry Concentration and Co-Digestion on Biogas Yields from Unseeded *Phaseolus vulgaris* (Bean) Peels Chaff and Unseeded *Musa paradisiaca* (Plantain) Peels Chaff

Co-author | November 2024 | gsconlinepress.com

Responsible for hands-on laboratory procedures, experimental data collection, and sample processing. Collaborated with the research team to compile and analyze raw results from the biological dataset.