

HANEEF OJUTALAYO

BACKEND ENGINEER

 LinkedIn |  Phone Number |  Email address |  Github link

PROFESSIONAL SUMMARY

Backend Engineer with 4+ years of experience designing, building, and maintaining scalable, production-grade backend systems using Python and FastAPI. Strong background in API design, asynchronous systems, microservices, background processing, and transactional data modeling.

Experienced in building robust APIs, integrating third-party services, handling webhooks, retries, and rate limits, and optimizing systems for performance, reliability, and scalability. Proven ability to work on real products under company environments and competitive engineering programs. Also experienced in building AI-powered backend services and data ingestion pipelines.

SKILLS

Backend & Architecture

Python, FastAPI, Django
RESTful APIs, Microservices
AsyncIO, Background Processing
WebSockets, OOP, SOLID Principles

Databases & Data

PostgreSQL, MySQL, SQLite
SQLAlchemy, SQLModel, Alembic
Transactional & Analytical Data Modeling
Database Design

Messaging, Caching & Workers

Celery, Celery Beat
Redis
RabbitMQ

Reliability, Security & Auth

JWT, OAuth2
Rate Limiting, Idempotency
Webhooks & Retry Strategies
Logging & Error Handling

AI & Intelligent Systems

LLM Integration, LangChain
Retrieval-Augmented Generation (RAG)
Embeddings & Semantic Search
AI-powered APIs

DevOps & Tooling

Docker, AWS
CI/CD
Pytest, Postman
Git, GitHub

Frontend

JavaScript, TypeScript
React, Next.js
Tailwind CSS

WORK EXPERIENCE

Emerj LLC

Backend Engineer

12/2025 - Present

Backend engineer working on Sitelytics, an AI-powered web analysis and monitoring platform initially developed during the HNG Internship and now continued under Emerj LLC.

- Designing, maintaining, and scaling FastAPI-based backend services supporting audits, analytics, and scheduled processing.
- Implemented AI-powered APIs including document analysis, summarization, and retrieval workflows using LLMs, embeddings, and RAG pipelines.
- Built event-driven systems using RabbitMQ / background workers, handling retries, dead-letter queues, and idempotent processing.
- Architecting and optimizing background job pipelines using Celery, Celery Beat, and Redis to handle recurring tasks, retries, and workload distribution.
- Managing PostgreSQL data models, migrations, and query optimization for analytical and historical data.
- Improving system reliability through structured logging, improved error handling, and refactoring early MVP components.
- Collaborating with frontend engineers and product stakeholders to ship features and prepare the platform for public release.

HNG

Backend Engineer (Intern)

10/2025 - 12/2025

HNG is a highly intensive and fast-paced internship designed to improve coding and design skills through real-world challenges.

- Designed and built production-grade backend systems using Python & FastAPI, following REST and microservice principles.
- Implemented AI-powered APIs including document analysis, summarization, and retrieval workflows using LLMs, embeddings, and RAG pipelines.
- Built event-driven systems using RabbitMQ / background workers, handling retries, dead-letter queues, and idempotent processing.
- Integrated third-party services (OAuth, payment gateways, external APIs) with secure, server-side flows.
- Implemented caching (Redis), PostgreSQL data models, and clean schema migrations.
- Deployed services using Docker, CI/CD pipelines, and cloud platforms.

- Collaborated in cross-functional teams (PMs, designers, frontend engineers, devops, QAs) following real-world agile workflows.
- Consistently met tight deadlines across multiple stages
- Finished as a finalist in the HNG Internship, ranking in the **top 3.6% (450 out of 12,362 participants)**, demonstrating strong technical proficiency and exceptional collaboration skills.

MushakTech Ventures

Full-stack Developer

02/2023 - 06/2025

MushakTech Ventures is a dynamic digital agency that specializes in building fully functional, visually compelling solutions. With a strong focus on collaboration and innovation, the team delivers high-quality digital products that align perfectly with clients' brands.

- Engineered scalable and secure web applications that fulfilled client requirements, delivered high performance, and eliminated data breaches.
- Integrated third-party services and payment providers, processing thousands of transactions
- Built RESTful APIs for mobile apps, reducing data retrieval time by 50% and improving responsiveness.
- Refactored legacy websites and dashboards, boosting load speeds by 60% and SEO performance, resulting in a 35% increase in traffic.
- Managed server deployments and security, ensuring **95% uptime** and implementing performance optimizations.

PROJECTS

Sitelytics

Co-developed Sitytics, an autonomous web analysis platform that leverages AI to crawl, audit, and score websites for SEO, performance, accessibility, and design improvements.

- Architected and Engineered the end-to-end flow for scheduled website audits. Implemented a robust scheduling engine using Celery Beat and Redis, capable of handling diverse user-defined frequencies (Weekly, Monthly, Quarterly), reducing manual user intervention by 100%.
- Optimized background task processing by implementing a daily batch scheduling logic, significantly reducing database load and resource consumption.
- Developed RESTful API endpoints for bulk configuration and history tracking, simplifying the management of scanning schedules for large numbers of sites.
- Managed complex database schemas with SQLAlchemy and Alembic, and resolved critical race conditions to ensure reliable asynchronous task execution.

Pulse | Scalable Real-time News Aggregator

Technologies: Python, FastAPI, Celery, Redis, PostgreSQL, JavaScript, PWA

- Engineered a scalable real-time news aggregation platform ingesting data from multiple international news providers including NewsAPI, The Guardian, and The New York Times.
- Designed an asynchronous background processing pipeline using Celery workers and Redis queues to handle periodic data synchronization, decoupling heavy I/O operations from the request-response cycle.
- Developed a robust deduplication engine using SHA-256 URL hashing, ensuring data integrity and preventing duplicate content across multiple sources.
- Optimized application performance by implementing a Redis-based caching layer with a singleton connection pool, significantly reducing API latency for frequent search queries and filters.
- Implemented resilient API integration logic including advanced rate-limiting observance and auto-recovery for 429 (Rate Limit) errors, ensuring consistent data flow under external API constraints.
- Designed a high-fidelity Progressive Web App (PWA) with Vanilla JavaScript, featuring infinite scroll, dynamic filtering, and live search for a native-mobile experience.

Wallet Service API

Technologies: Python, FastAPI, PostgreSQL, SQLAlchemy, Paystack API, Docker

- Developed a high-performance digital wallet backend to facilitate secure financial transactions, real-time payment processing, and seamless user fund management.
- Engineered atomic financial transactions using FastAPI and PostgreSQL, ensuring data integrity for deposits and transfers through strict ACID compliance and double-entry ledger recording.
- Integrated Paystack payment gateway, implementing a secure webhook system with HMAC-SHA512 verification and idempotency checks to guarantee reliable fund crediting.
- Designed a dual-layer authentication system, combining Google OAuth2 (JWT) for user sessions with a custom, permission-scoped API Key infrastructure for secure third-party integration.
- Implemented precision-critical financial logic, enforcing strictly typed integer-based arithmetic (Kobo) to eliminate floating-point errors and ensuring unique transaction reference generation for auditability.

API Gateway for Distributed Notification

Technologies: FastAPI, PostgreSQL, RabbitMQ, Redis, Docker

- Designed and built a high-performance Async API Gateway serving as the central entry point for a microservices-based notification system.
- Implemented resiliency patterns including Circuit Breakers and Rate Limiting (Token Bucket) to protect downstream services from cascading failures and traffic spikes.
- Engineered an idempotency mechanism using Redis to prevent duplicate notifications during network retries, ensuring data consistency.
- Architected an event-driven workflow using RabbitMQ to decouple request ingestion from processing, enabling high-throughput message queuing for Email and Push services.
- Integrated observability with distributed tracing (Correlation IDs) and a dedicated health-check system monitoring dependent services (Redis/RabbitMQ).

Flash AI - AI Flashcard Generator

Technologies: Next.js, Typescript, Python, FastAPI, Llama 3, Docker

An intelligent study companion that instantly transforms your lecture notes, PDFs, and textbooks into interactive flashcards using advanced AI to accelerate learning.

- Designed an AI-driven system capable of parsing unstructured data from multiple file formats and synthesizing it into structured Q&A pairs.
- Integrated Groq's high-speed inference engine to reduce generation latency by 90% compared to traditional LLM APIs.
- Implemented complex file handling logic in Python to extract and clean text from PDFs and Word documents before processing.
- Ensured API reliability and standardized data exchange using Pydantic models.

CERTIFICATIONS

HNG 13 Internship Finalist: [Certificate](#)