Ifeanyi Desmond Dike

Senior Software Engineer | Backend & Voice AI

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PROFILE

Senior software engineer with **8+ years** in backend and real-time systems. Builds and debugs **production voice AI** using Python, Go, React and TypeScript. Works remotely with US and Canadian teams.

PROFESSIONAL EXPERIENCE

DataStrut AI

Founding AI Engineer / Senior Software Engineer | Aug 2025 - Present | New York, US; Remote

- Reduced memory use by **over 70% across two production FastAPI services** through profiling with memray and Gunicorn preloading.
- Migrated production voice AI from Vapi to self-hosted Python/Pipecat, integrating telephony, streaming speech, LLMs and PostgreSQL reporting.
- Cut steady-state speech-recognition sessions from **3 to 1 per call** in three-agent workflows.
- **Diagnosed interruptions and dead air** by tracing stale model decisions and timer races through timestamped voice pipeline events.
- **Excluded speech cancelled before playback release** from recordings; used Twilio dual-channel audio to align both speakers on one timeline.
- Built Fly.io call admission with **atomic, versioned Redis reservations** and active-work checks. Separated scheduling and reporting with dedicated RQ workers, capacity-aware retries and duplicate-call protection.
- Ran voice load tests reaching **40 occupied phone lines**; **48 populated reports (96 jobsites)** were ready within **121.2 seconds** of AI-session end. Identified audio-loss and call-setup failures.
- Built **React report editing** with version checks, history, account isolation and drafts preserved after failed refreshes.

Fynance Hub

Technical Lead | Oct 2024 - Present | Toronto, Canada; Remote, part-time

- Built a **React/TypeScript mortgage platform** with Go/Python, PostgreSQL and Redis, generating **hundreds of leads** for Canadian brokers.
- Worked with the founder to turn broker requirements into features, including RAG recommendations and outbound voice verification.
- **Separate contract:** building MajorDairy AI's React Native/Expo app and FastAPI backend for dairy-farm workflows. Deployed on **Railway**; app in Google Play testing. Built a DairyComp 305 record importer.

PROFESSIONAL EXPERIENCE - CONTINUED

Arbor Platform Inc.

Senior Software Engineer | Feb 2023 - Oct 2024 | New York, US; Remote

- Built **React/TypeScript interfaces** for a content studio, B-roll tools and social publishing; integrated DatoCMS through GraphQL.
- Built Claude/OpenAI video and transcription workflows, reducing production time by **60%** and increasing throughput by **80%**.

Howdy Learning

Senior Software Development Engineer | May 2020 - Mar 2023 | Remote

- Reduced **WebSocket network traffic by over 99%**; built live-video infrastructure supporting up to **10,000 concurrent connections**.
- Built GetStream/WebSocket chat serving about **100 communities**.
- Delivered video, voice and SSO integrations for Thinkific and WordPress, used by **over 100 customers**.

Bujuwa Nigeria Limited

Software Developer | Jul 2018 - Dec 2019 | Abuja, Nigeria

- Built web and mobile assessment systems, from requirements through design and delivery.

SELECTED INDEPENDENT PROJECT

Cenphi | Co-Founder and Lead Developer | Mar 2025 - Present

- Built **React/TypeScript and Go/Python video workflows** with SSE progress updates. Added connection cleanup, completion deduplication, session isolation, access checks and regression tests.

TECHNICAL SKILLS

Backend: Python, asyncio, Go, FastAPI, Flask, gRPC, PostgreSQL, Redis, MongoDB, RQ.

Frontend: React, TypeScript, JavaScript, GraphQL (DatoCMS), React Native, Expo.

Infrastructure: Fly.io, Heroku, Railway, Docker, CI/CD, observability; additional exposure to AWS and Kubernetes.

Voice & AI: Pipecat, Twilio, WebSockets, WebRTC, streaming STT/TTS, VAD, LLM tools, RAG, PyTorch, Hugging Face.

RESEARCH, OPEN SOURCE & WRITING

VoxCPM2 / vLLM-Omni: Built a test harness for LoRA speech adapters, checked speech-recognition scoring against human recordings, and reported base, full-adapter and LM-only results upstream.

Voice-agent evaluation: Sole-author preprints on ATR and Full-Duplex-Bench reproduction, with ATR code and the benchmark code. Four co-authored IEEE IEMCON papers (2018).

Pipecat: Reported an Anthropic integration bug (#5035 and #5036); maintainer fix: #5041.

Technical writing: Debugging voice recordings; profiling Python memory in production.

EDUCATION

M.Sc., Financial Engineering | WorldQuant University | Dec 2025 - Dec 2027 (expected; in progress)

B.Tech., Applied Mathematics, First Class | Federal University of Technology, Akure | 2018
GPA: 4.63/5.00. National university mathematics competition: Gold (2017), Bronze (2016).