

# Itwela Ibomu

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## EDUCATION

### Western Governors University (WGU)

B.S. in Software Engineering

- Relevant coursework: Data Structures & Algorithms; Python; Front-End Web Development; JavaScript

Salt Lake City, UT

December 2026 (Estimated)

## EXPERIENCE

### Software Engineer

Dope Marketing

Jul 2025 - Dec 2025

Remote (HQ: Minnesota)

- Built internal AI platform and production APIs that automated account research and data analysis for managers, reducing manual lookup time from hours to minutes.
- Designed and deployed APIs enabling agent access to millions of housing and client records, improving decision speed for leadership teams.
- Delivered three production tools adopted by management, improving research efficiency and enabling scalable automation.

### Software Engineering Fellow (AI/LLM Projects)

Headstarter

Jul 2024 - Sep 2024

Remote (HQ: San Francisco, CA)

- Led a team of 3 to design and ship CitySwipe, an LLM-powered travel planner (Next.js, LangChain, Pinecone, Supabase) that reached 200+ users and 50K+ impressions.
- Built and scaled five AI web apps using Next.js and LangChain; focused on RAG flows, vector search integration, and prompt engineering to improve relevance.
- Won 1st place out of 300+ teams in a nationwide hackathon for product innovation and execution.

### AI Engineer

Dataforce

Apr 2024 - Jun 2024

Atlanta, GA

- Improved automated video captioning pipeline using Whisper and OpenCV, reducing captioning error rates by 20% across 200 videos/day.
- Implemented workflow automation and QA checks that increased processing consistency and deployment reliability.
- Built reproducible deployments (Docker) for media processing pipelines and provided operational documentation for handoffs.

### Software Intern

J.P. Morgan (Forage)

Remote

- Implemented a real-time data visualization tool with  $\geq 200\text{ms}$  updates using the Perspective library, gaining exposure to enterprise-scale data systems.
- Contributed to performance tuning and front-end data integration for high-frequency dashboards.

## PROJECTS

### CitySwipe — AI Travel Planner | *Next.js, LangChain, Pinecone, Supabase*

- Personalized travel recommendations using LLMs and vector search to produce context-aware suggestions and itineraries.
- Designed personalized recommendation flows using LangChain and vector search (Pinecone) to deliver context-aware suggestions.
- Iterated on prompt templates and UX to increase engagement to 200+ users and 50K+ impressions.

### RAG — Real-time Contextual Chat | *Next.js, TypeScript, Pinecone, OpenAI*

- Real-time RAG chat application using vector search to serve contextual answers and improve perceived relevance.
- Implemented vector-search retrieval-augmented generation architecture and TypeScript-first frontend/back-end glue for fast iteration and caching.

- Focused on evaluation and prompt tuning to improve response relevance.

#### **Globetrotter AI — Voice Travel Assistant |** *Flask, Python, OpenAI, Google TTS, React Three Fiber*

- Voice-activated travel planner integrating speech recognition, LLM planning, and travel APIs to produce spoken itineraries.
- Built voice UX and multi-step agent planning flows using LLMs; integrated speech recognition and third-party travel APIs for end-to-end demos.
- Won 1st place at Headstarter Hiring Hackathon for voice UX, API integrations, and production-ready demo.

#### **Jelly Up! — Instant Video Caption Generator |** *Next.js, Whisper, OpenCV, Docker, FFmpeg*

- Automated subtitles and burned-in captions using Whisper and OpenCV, deployed with Docker for reproducible demos.
- Architected an end-to-end automated captioning pipeline producing SRT and burned-in captions; improved caption sync via frame alignment heuristics.
- Placed 2nd at Headstarter Hiring Hackathon for technical execution and demo reliability.

### **TECHNICAL SKILLS**

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**Languages:** Python, TypeScript, JavaScript, LangChain, Prompt engineering, Agent engineering, RAG / Retrieval-Augmented Generation, Vector search (Pinecone), OpenAI, Next.js, React, Docker, CI/CD concepts, Cloud fundamentals (AWS/GCP concepts)

**Additional Skills:** UI/UX Design, Product Development, Agile, Leadership