SOPHIA VAL-IZEVBIGIE

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SUMMARY

Full-stack developer with strong skills in JavaScript, TypeScript, Node.js, and React. Experienced in building AI-powered systems, custom APIs, and user-friendly interfaces. Adept at developing scalable apps and tools for inventory management, education and data-intensive applications. Passionate about open-source, performance optimization, and developing real-world, client-focused solutions.

TECHNICAL SKILLS

- **Programming Languages:** TypeScript, JavaScript, HTML, CSS, ElectronJs, SQL
- **Frameworks & Libraries:** React, Express.js, Bootstrap, Tailwind CSS
- **Backend & Databases:** Node.js, GraphQL (Apollo), MySQL, SQLite3
- **Tools & Platforms:** Git, GitHub, VS Code, Postman, Jupyter Notebook
- **Data & AI Techniques:** Retrieval-Augmented Generation (RAG), Machine Learning (Regression, Feature Selection), Vector Embedding, Data Cleaning, Model Evaluation

PROJECTS

1. Llama Embedder Module:
A lightweight Node.js module for local text embedding and similarity comparison using quantized GGUF models.

- Built an embeddable tool using node-llama-cpp and llamafile to generate vector embeddings from text locally
- Used the quantized nomic-embed-text-v1.5.Q4_K_M.gguf model to optimize performance for CPU-only systems
- Implemented cosine similarity computation for comparing semantic similarity between text samples
- Added support for saving embeddings and similarity results to .json for downstream analysis or RAG systems
- Fully offline and GPU-optional, enabling edge AI applications with minimal hardware requirements

2. AI-Driven Inventory Management Platforms
Built an advanced AI-driven inventory management and point-of-sale (POS) system designed to streamline and automate inventory processes for businesses of all sizes.

- Built the AI Forecasting Dashboard using **React, MUI** and **TypeScript** to display real-time stock insights and demand predictions
- Integrated **AI-powered models** for forecasting inventory needs based on historical trends and usage data
- Connected frontend to a **GraphQL** API for dynamic data fetching and smooth performance
- Implemented reusable components, loading states, and clean UI layout to enhance usability and responsiveness
- Contributed to the seamless integration of the dashboard with other features such as stock tracking and third-party system connections

3. School Management Software
An AI-powered educational ecosystem designed to modernize school operations, improve academic outcomes, and deepen parent-teacher engagement.

- Developed multi-platform apps (mobile, desktop, web) for school administrators, teachers, parents, and students
- Integrated **AI-driven modules** for student performance tracking, real-time attendance, behavior insights, and academic forecasting
- Implemented personalized parent engagement tools like student timelines, activity feeds, and private messaging, replacing bulk SMS and group chats

- Enabled content-rich learning via lesson plans, animated videos, games, and C.B.Ts—all automated and aligned with curriculum
- Built intelligent marketing features that convert prospective clients using scheduled, personalized messaging from the school's official number
- Reduced teacher workload through automated grading, report generation, and AI-created lesson resources
- Enhanced operational efficiency with built-in modules for accounting, HR, payroll, fixed assets, and virtual classroom support

4. RAG Module – Lightweight Retrieval-Augmented Generation System
A TypeScript-based RAG implementation using `node-llama-cpp` for embeddings and SQLite for vector search.

- Developed a compact and efficient RAG system for local document retrieval and semantic search
- Integrated `node-llama-cpp` to generate text embeddings using quantized LLaMA-based GGUF models
- Implemented vector storage and similarity search using SQLite with vector extensions
- Designed a simple API to save documents, generate embeddings, and perform fast semantic queries
- Built entirely in TypeScript to ensure type safety, performance, and easy integration with existing Node.js apps

5. Web Development

- Developed multiple responsive websites using React, Bootstrap, JavaScript, and TypeScript, tailored to client specifications.
- Delivered user-friendly, mobile-optimized designs with custom features, ensuring both functionality and visual appeal.

WORK EXPERIENCE

Junior Fullstack Developer
Techbox Labs – Lagos, Nigeria
March 2024 – Present

- Built and maintained full-stack projects including AI tools, school management systems, and inventory dashboards
- Developed reusable frontend components in **React** and **TypeScript**, and integrated **GraphQL** APIs

- Engineered backend logic using **Node.js**, **SQLite**, and **Apollo Server**
- Worked independently on internal modules and contributed to client-ready applications