

Saksham Tiwari

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Education

Visvesvaraya Technological University, Bangalore
B.E./B.Tech in Computer Science & Engineering

Expected Graduation: 2027
CGPA: 8.3

Experience

Full-Stack Developer Intern – ALPS Softech Solutions Pvt. Ltd.

Apr 2026 – May 2026

Remote

- Worked as part of a development team at a service-based company, contributing to a live client web application built on the MERN stack.
- Built REST API endpoints, data models, and controllers using Node.js and Express.js, following MVC architecture for a customer-facing product.
- Collaborated with the team on integrating backend APIs with React.js components on the client side.

Technical Skills

Programming Languages: Python, JavaScript (Node.js), C++

Backend: FastAPI, Express.js, REST API Design, JWT Authentication

Generative AI: LangChain, Retrieval-Augmented Generation (RAG), Qdrant (Vector DB)

Databases: PostgreSQL, MongoDB, Redis, Qdrant

Tools & Technologies: Git, React.js, Socket.io

Core CS: Data Structures & Algorithms, OOPs, DBMS, Operating Systems, Computer Networks

Projects

RAG Document Q&A System

Python, FastAPI, LangChain, Qdrant, OpenAI, Redis, Docker

- Built an end-to-end RAG pipeline using LangChain, Qdrant, and OpenAI embeddings, enabling semantic search and cited question answering over uploaded PDF documents.
- Implemented overlapping text chunking (500 tokens, 50 overlap) with cosine similarity retrieval; system prompt enforces context-only answers, eliminating LLM hallucinations.
- Integrated Redis caching, reducing OpenAI API calls by ~60% and response latency from ~2s to under 100ms; fully containerised with Docker Compose and deployed on Vercel.

Natural Language to SQL Generator

Python, FastAPI, LangChain, PostgreSQL, Redis, Docker

- Developed a text-to-SQL engine using GPT-4o-mini and LangChain with automated PostgreSQL schema introspection, converting plain English questions into executable SQL in real time.
- Built a self-correcting generation loop that re-sends failed SQL with its error back to the LLM for auto-correction, resolving approximately 80% of generation failures.
- Implemented multi-layer safety validation blocking destructive SQL operations (DROP, DELETE, TRUNCATE); Redis caching eliminates redundant API calls for repeated queries.

Real-Time Chat Application

MongoDB, Express.js, React.js, Node.js, Socket.io, JWT

- Built a full-stack real-time chat application using the MERN stack with Socket.io for bidirectional, low-latency messaging between users.
- Implemented one-on-one messaging with live online/offline presence and read-status indicators, synced in real time across connected clients.
- Secured the application with JWT-based authentication, protecting REST and WebSocket connections and persisting conversation history in MongoDB.

Voxlair — Anonymous Discussion & Confessions Platform

Next.js, Node.js, Express.js, PostgreSQL

- Founded and built an anonymous discussion platform for confessions, debates, and daily community posts using Next.js, Express.js, and PostgreSQL.
- Designed the SEO and content infrastructure end-to-end — server-side rendering, dynamic OG image generation, and indexing fixes — and shipped 12 blog posts as part of an organic growth strategy.
- Owned the product and content roadmap independently, from architecture decisions to content marketing and distribution planning.

Achievements & Certifications

- Solved 120+ Data Structures and Algorithms problems on competitive coding platforms.
- Built and deployed 4 production-grade full-stack and GenAI applications.
- Certifications: Data Science (Coursera).