Vikas Gautam

Full-Stack Developer

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GitHub | LinkedIn | Portfolio | Hugging Face

Professional Summary

Full-Stack Developer passionate about building scalable web applications and integrating **AI** to create intelligent, high-performance user experiences.

Education

Bachelor of Computer Science – Chitkara University | Expected 2027 | CGPA: 9.39

Technical Skills

- **Frontend:** JavaScript, TypeScript, React, Next.js, Tailwind CSS, WebRTC
- **Backend:** Node.js, Express.js, MongoDB, MySQL, PostgreSQL, Prisma, REST APIs, JWT, FastAPI, Redis, BullMQ
- **Programming:** Java, C++, Python, Golang
- **DevOps & Tools:** Docker, Kubernetes, GitHub Actions (CI/CD), Git, NGINX, Vercel, Render, Postman, Supabase, Upstash
- **AI/ML/LLM:** Ollama, RAG Architectures, Pinecone, LangChain, MCP Servers, LangGraph, Streamlit, Prompt Engineering, spaCy, NumPy, Pandas, matplotlib, scikit-learn, Jupyter Notebooks
- **Core Concepts:** Data Structures & Algorithms, OOP, Networking, Cybersecurity Basics

Key Projects

Package Forge : Autonomous NPM Package Architect

- Architected a **distributed job queue system** using **BullMQ** and **Redis** to decouple the Vercel frontend from heavy compute tasks, preventing server timeouts.
- Implemented **containerized build environments** using ephemeral **Docker** instances to ensure code isolation and consistency during the automated npm publishing process.

Stack: Next.js 14, Node.js, Docker, BullMQ, Redis, Google Gemini | GitHub | Live

Sentinel.ai – AI-Powered Proctoring Platform

- Designed a **real-time video pipeline** leveraging **WebRTC** for direct peer-to-peer streaming, eliminating the latency overhead of traditional HTTP-based video transfer.
- Developed an **asynchronous inference engine** with **FastAPI**, allowing the backend to process incoming video frames for cheating detection without blocking the main application thread.

Stack: Python, FastAPI, WebRTC, React, OpenCV, AI/ML | GitHub | Live

Draftify.ai - AI Web App Builder

- Engineered a **"Frontend-as-Backend" architecture** with a zero-latency **Web Streams pipeline** to simulate full-stack functionality, delivering real-time generative output without server costs.
- Integrated a secure **Sandpack runtime** with a custom **Shadcn-lite UI Kit**, enabling the AI to instantly compose and render professional, interactive interfaces by default.

Stack: Next.js 14, Google Gemini API, Groq API, Sandpack, Tailwind CSS, Web Streams API | GitHub | Live

Hostel Committee Platform

- Developed a **Retrieval-Augmented Generation (RAG)** system using **Pinecone** to provide the LLM with long-term memory of hostel rules and events, reducing hallucinations.
- Engineered a **conflict-free booking system** using database transactions to prevent double-booking of rooms during peak usage times.

Stack: MERN Stack, Pinecone, Gemini AI, RAG, Cloudinary | GitHub | Live

Certifications

- CS50's Introduction to Computer Science – Harvard
- Code in Place – Stanford