Kaushalrajsinh Puwar

953-756-5002 | kaushalrajpuwar@gmail.com | in/kaushalrajpuwar | KaushalrajPuwar | Website

Education

International Institute of Information Technology Bangalore (IIIT-B) — **Jul 2023 – Present**
Integrated M.Tech in Computer Science and Engineering — *CGPA: 2.89/4.00*

Experience

OpenG2P — **May 2026 – Jul 2026**
Machine Learning Intern

- Built an **LLM-assisted pipeline converting natural-language queries into schema-constrained SQL** with deterministic validation, retry logic, and multi-source routing.
- Evolved the static pipeline into a **live-loop agent** with sequential tool calling, mid-investigation clarification, and adaptive strategy based on intermediate results.
- Enabled **cross-source analysis across 4 database systems** with structured output contracts, logging, and confidence scoring, reducing manual triage effort.

Projects

Webhook Relay | *Go, PostgreSQL, Next.js, TypeScript, Docker Compose* [code] — **Jun 2026 – Jul 2026**

- Created a **self-hosted webhook reliability platform** that durably persists application events in PostgreSQL and fans them out asynchronously to **3+ subscribed HTTP endpoints** through concurrent Go delivery workers.
- Prevented duplicate logical events across **20 concurrent producer retries** using PostgreSQL-backed idempotency keys, request-payload conflict detection, and atomic event ingestion with independent per-endpoint delivery state.
- Implemented recovery across **5 fault scenarios**: HTTP failures, receiver timeouts, worker restarts, duplicate submissions, and dead-letter replay. Used bounded exponential backoff with jitter and a Next.js operator console.

AutoDocLM | *Python, Ollama, OpenAI SDK, ChromaDB, NetworkX, MkDocs* [code] — **Mar 2026 – Apr 2026**

- Developed an **LLM-powered code understanding system** that transforms large repositories into structured documentation, architecture summaries, and Mermaid dependency diagrams.
- Built a static analysis pipeline using **AST parsing, graph analytics, and PageRank centrality** to model cross-file dependencies and prioritize high-impact code components.
- Integrated **retrieval-augmented generation (RAG)** with local embeddings, ChromaDB, and external inference APIs to generate architecture-aware technical documentation at repository scale.

Hospital Site Suitability Analysis | *QGIS, OpenRouteService, WorldPop, OSM* [code] — **Oct 2025 – Nov 2025**

- Performed GIS-based spatial analysis to identify optimal hospital locations in Hyderabad.
- Integrated OpenStreetMap roads, WorldPop population data, and OpenRouteService travel-time routing.
- Identified **Top 5% underserved zones** with high population density and high average hospital access time.

Grid Hero | *C++, Java, C* [code] — **Oct 2024 – Nov 2024**

- Developed a CLI grid-based strategy game with player navigation and enemy pursuit.
- Implemented shortest-path enemy bot and **multi-level progression mechanics**.
- Designed **3 progressive levels** and a final boss stage with dynamic enemy pathfinding.

Technical Skills

Languages	Python, C/C++, Go, JS/TS, Rust, Java, HTML/CSS
Fullstack & Databases	React, Vite, Next.js, Tailwind, Gradio, Node.js, REST APIs, PostgreSQL, MongoDB
AI/ML	PyTorch, Scikit-learn, Pandas, NumPy, LangChain, Hugging Face, Matplotlib
Cloud & Tools	Docker, AWS, Kubernetes, Jenkins, Anaconda, Jupyter Notebook, Android Studio

Relevant Coursework

- Data Structures & Algorithms
- Computer Networks
- Operating Systems
- Database Management
- Machine Learning
- Software Engineering

Extracurriculars

AWS Student Builders Group | *Core Member* — **Jun 2026 – Present**

- Part of the core organizing team responsible for supporting AWS-focused workshops, technical events, and student community initiatives.

Infin8 Sponsorship Team | *Sponsorship Coordinator* — **Nov 2023 – Feb 2024**

- Contributed as the Sponsorship Coordinator for the annual cultural festival Infin8 and secured sponsorships for the event