

# Divayang Siddhapura

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## PROFESSIONAL SUMMARY

Computer Science undergraduate at IIIT Vadodara who builds LLM systems end to end rather than wrapping an API. Built **Div-AI**, a fully offline personal AI assistant: a **LangGraph ReAct** agent loop with real tool use, a three-layer memory architecture, and a **RAG** retrieval pipeline with threshold filtering and query expansion, all running on a **3B local model** with zero cloud API dependencies. Designed **UNI AI**, a production coaching layer built on a structured agent prompt pipeline, shipped to **1.2K+ Monthly active users** as Founder and CEO of Runiverse Technologies. Also ran an AI automation agency delivering LLM-backed work for external clients. Strong in **Python** and **JavaScript/TypeScript**, and comfortable in the parts of AI engineering that decide whether a system actually works: prompt and tool design, retrieval quality, and reproducing failures rather than guessing at them.

## EDUCATION

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| <b>Indian Institute of Information Technology Vadodara</b><br><i>B.Tech in Computer Science and Engineering   CPI: 7.94</i> <ul style="list-style-type: none"><li>• <b>Relevant Coursework:</b> Data Structures &amp; Algorithms, Object-Oriented Programming, Operating Systems, Database Management Systems, Computer Networks, Discrete Mathematics</li></ul> | Gandhinagar, Gujarat, India<br><i>Aug 2024 – May 2028</i> |
| <b>Shardayatan School</b><br><i>Class XII (Higher Secondary), GSEB   Percentage: 82.70%</i>                                                                                                                                                                                                                                                                      | Gujarat, India<br><i>Apr 2022 – Mar 2024</i>              |
| <b>Shardayatan School</b><br><i>Class X (Secondary), GSEB   Percentage: 88.50%</i>                                                                                                                                                                                                                                                                               | Gujarat, India<br><i>Apr 2021 – Mar 2022</i>              |

## EXPERIENCE

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| <b>Runiverse Technologies</b><br><i>Technical Founder &amp; CEO</i><br><i>Play Store   App Store   React Native (Expo SDK 54), Node.js, MongoDB, PostgreSQL</i> <ul style="list-style-type: none"><li>• Designed <b>UNI AI</b>, an in-app coaching layer built on a <b>structured agent prompt pipeline</b> over the existing activity and territory data models, delivering personalised training feedback and progress insights.</li><li>• Launched and ran <b>tech.runiverse.fit</b>, a client-facing app development and <b>AI automation</b> agency under the same entity; currently paused to keep focus on the core product.</li><li>• Founded and lead <b>Runiverse</b>, a location-based fitness gaming app live on <b>both Google Play and the App Store</b> (v3.4.1) with <b>1.2K+ daily active users</b>, built on React Native (Expo SDK 54), Node.js, MongoDB and PostgreSQL.</li><li>• Hardened the <b>2.1K-line GPS activity engine</b> against process death and duplicate credit: replaced whole-file journal rewrites with <b>O(1) append-only JSONL</b> writes, added a <b>monotonic-timestamp watermark</b> to absorb Android's re-delivered location batches, and made uploads <b>idempotent</b> via a stable key backed by a partial unique index, eliminating duplicated distance, XP and leaderboard credit.</li><li>• Lead a cross-functional team of 5, comprising 2 co-founders (CMO, CTO) and 3 interns, owning the product roadmap, architecture decisions and sprint planning on <b>Linear</b>; shipped the <b>iOS port</b> solo on the same codebase and owned the full release pipeline across <b>EAS Build, TestFlight and App Store Connect</b>, including Sign in with Apple compliance (Guideline 4.8).</li></ul> | Gandhinagar, India<br><i>Sept 2025 – Present</i> |
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## PROJECTS

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| <b>Div-AI - Local Personal AI Assistant</b>   <i>Python, LangGraph, LangChain, Ollama, ChromaDB, Telegram Bot API</i> <ul style="list-style-type: none"><li>• Built a fully offline, privacy-first personal AI assistant running <b>entirely on local hardware</b> with <b>zero cloud API dependencies</b>, so no conversation or personal context ever leaves the machine.</li><li>• <b>Memory:</b> Designed a <b>three-layer memory architecture</b> combining a short-term buffer for the active turn window, a <b>ChromaDB</b> vector store for semantic recall across sessions, and a persistent conversation store as the durable record.</li><li>• <b>Retrieval:</b> Implemented the <b>RAG</b> pipeline with <b>cosine-similarity threshold filtering</b>, which discards low-confidence chunks instead of padding the context window with weak matches, and <b>query expansion</b> to recover recall on short or under-specified questions.</li></ul> |
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- **Agent loop:** Architected the assistant as a **LangGraph ReAct** loop with **Tavily web search** and **Google Calendar** wired in as callable tools, so the model plans, invokes a tool, reads the result and re-plans inside a single graph rather than in a one-shot prompt.
- **Serving:** Exposed the system through a **Telegram bot** on **qwen2.5:3b** via Ollama, with **token streaming** to keep responses interactive despite running inference locally on a 3B parameter model.

**UNI-X - Distributed Territory Engine** | *Node.js, PostgreSQL, Redis, BullMQ, Uber H3, Mapbox Vector Tiles*

- Built the standalone geospatial service powering Runiverse's territory system (**4K LOC, 24 modules, 11 Jest suites**): an **H3 hexagonal ownership store** on PostgreSQL **LIST-partitioned by resolution** across 13 partitions (R0 to R12), fronted by a Mapbox Vector Tile server and **BullMQ** workers.
- Replaced a superlinear polygon builder with an **O(n) edge-cancellation dissolve**, cutting z14 tile build time from **670 ms to under 90 ms** and tile payload from **719 KB to 2 KB**; benchmarked at **3.1 to 5.8 times** faster at 20K cells, with build-time gzip trimming a further 50 to 70% of egress.
- Designed hierarchical **hex compaction** as a pure in-memory pass on the write path plus an asynchronous upward BFS off the request path, writing parents before deleting children so that a mid-job crash leaves a harmless coarse/fine overlap rather than a hole that would erase a player's territory.
- Implemented cross-activity loop closure using **union-find with path compression** and enclosure capture via **BFS flood fill** seeded from the bounding-box perimeter, bounded by ray-cast centroid tests; enforced worker **idempotency** through a unique-key insert so retried jobs skip instead of double-applying territory.

## TECHNICAL SKILLS

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**Languages:** Python, JavaScript, TypeScript, C, C++, Java, SQL

**AI and Agents:** LangGraph, LangChain, Ollama, ChromaDB, RAG and retrieval pipelines, ReAct agent loops, prompt and tool design, local inference, vector search

**Frameworks and Libraries:** React Native, Expo, React, Next.js, Node.js, Express, Zustand, Tailwind CSS, Three.js

**Tools and Technologies:** MongoDB, PostgreSQL, Redis, BullMQ, Firebase, Mapbox, Uber H3, Jest, Docker, Git, GitHub, Linear, Postman, EAS Build, App Store Connect, TestFlight, Google Play Console

**Core CS:** Data Structures & Algorithms, Object-Oriented Programming, Operating Systems, DBMS, Computer Networks, Discrete Mathematics

## ACHIEVEMENTS

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**Hacktoberfest 2024:** Earned the **Super Contributor** badge, contributing to open-source projects including @graycoreio, @pinely-international and @NativeScript.

**Ideathon Finalist:** Cerebro 2024–25, IIIT Vadodara; selected from a pool of **26,000+ applicants** (Oct 2024).

**VibeCon Hackathon (2025):** Reached the pitch stage, presenting Runiverse's architecture and product vision to a panel of judges.

**Competitive Programming:** Max rating 1143 on Codeforces; 100+ problems solved on LeetCode across core Data Structures and Algorithms.

## POSITIONS OF RESPONSIBILITY

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**Member, Masquerade Drama Club,** IIIT Vadodara (2024 – Present): active member of the institute's drama society, contributing to stage productions and performances at campus cultural events.