MANASH SWAIN

[redacted] | LinkedIn | GitHub | LeetCode | GeeksforGeeks

SKILLS

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

AI Engineering: LangGraph, LangChain, Generative AI, Agentic AI, RAG, State Mangement, Tool calling, Prompt engineering, Structured outputs, Human-in-the-loop checkpoints, Guardrails and Rule-based gating

Backend and Databases: FastAPI, Node.js, Express.js, REST APIs, SQLite, MongoDB

Frontend: React, Tailwind CSS, HTML5, CSS3,

Data: Pandas, NumPy, Matplotlib, Seaborn, SQL

PROJECTS

Sql-Writer | *Safe Natural Language-to-SQL Assistant* | GitHub | Live Demo

Python, FastAPI, LangGraph, LangChain, Groq (Llama 3.3 70B), SQLite, Pydantic, React

- Built a LangGraph state machine that turns plain English into SQL through separate nodes for intent classification, ambiguity checking, validation, human approval and execution.
- Wrote a deterministic validator that sits between the LLM and the database. It blocks DDL, UPDATE or DELETE without a WHERE clause and access to internal tables like sqlite_master.
- Added a human-in-the-loop pause using persistent SQLite checkpoints. Risky queries wait for approval, and the reviewer can edit the SQL, which is re-validated before it runs.
- For ambiguous requests ask a clarifying question instead of guessing filters, and logged every request, statement, decision and result to an append-only audit trail.

Gatekeeper | *Bounded AI Agent for Revenue Recovery* | GitHub | Live Demo

Python, FastAPI, OpenRouter API, SQLite, React

- Built for the Razorpay AI Intern Buildathon. The agent diagnoses failed payments and subscription lapses, then proposes one of four actions: retry, notify, escalate or stop.
- Designed it as a routing and evaluator workflow, not a fully autonomous agent. Every proposed action passes a deterministic rules layer first, so the model never has final say over a money action.
- Used tool calling to pull a customer's retry history status before producing a Pydantic-validated decision.
- Evaluated the agent on a 100+ record synthetic dataset, measuring recovery totals and false-positive rate.

TaskFlow | *Full-Stack Profile based social Task Manager (MERN)* | GitHub | Live Demo

React, Node.js, Express, MongoDB

- Built JWT authentication with bcrypt password hashing and protected routes in the backend.
- Added a dashboard with live task statistics, profile management and cloud image uploads.

PROBLEM SOLVING

Solved 300+ problems across LeetCode and GeeksforGeeks.

EDUCATION

BITS Pilani - B.S. in Computer Science 2025-2028

PW IOI Bengaluru - Skills Programme 2024-2028