

Suhaani Agarwal

📄 leetcode — 🌐 linkedin — 🐙 github — 🌐 website

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Summary — 2nd-year CS and AI student, building LLMs, agentic AI workflows and full-stack projects, with experience in data analytics, open-source library development and Data Structures and Algorithms.

Education

Indira Gandhi Delhi Technical University for Women (IGDTUW)

2024 - 2028

Bachelor of Technology in Computer Science Engineering and Artificial Intelligence | CGPA: 9.28

Skills

Languages: Python, C++, JavaScript, R

AI/ML: NLP, Machine Learning Pipelines

LLMs: RAG, Agentic Workflows, LangGraph

Web Dev: React, Node.js, FastAPI, Postgres, REST API

Core CS: Data Structures & Algorithms, OOP, DBMS

DevOps: Docker, AWS, Git, GitHub

Experience

Google Summer of Code with R Project for Statistical Computing

May – September 2025

Selected among top 1.2% (24,000+ applicants) ([Completion Certificate Link](#))

Animint2 Visualization Library Development

- Implemented 'geom_label_aligned' using quadratic programming, reducing label overlap in complex plots by 95%.
- Engineered a high-performance D3.js-based tooltip system, improving plot interactivity and reducing tooltip render time by 40% and resolved core rendering bugs across geom and axis components.
- Automated test generation and coverage collection for the mixed R/JavaScript visualization pipeline.
- Technologies: R, JavaScript, D3.js, SVG, quadprog.js, testthat, Codecov, V8, Chrome DevTools
- [Link: GSoC Technical Blog — Weekly Progress, PRs, and Case Studies](#)

CosyLab IIIT Delhi

February – April 2025

Research Intern ([Certificate Link](#))

- Integrated Foodoscope application features by connecting APIs (RecipeDB, FlavourDB, SustainableFoodDB) and architected backend data workflows using PostgreSQL.
- Developed 5+ frontend screens for the mobile app using React Native and Expo Router.
- Supported feature planning through market research to align backend capabilities with product needs.

Projects

MetroMind: AI-driven Metro Operations Platform (for Kochi Metro Rail Limited)

- Architected AI + **CP-SAT**-based multi-objective solvers using **OR-Tools** to optimise train induction, standby, and crew rostering, reducing scheduling time from ~2 hours to <5 minutes under real-world operational constraints.
- Implemented agentic systems with **LLM**-backed voice and text agents (call alerts + conversational query handling) using **Python**, **FastAPI**, and **Firebase**.
- Trained and deployed **ML models** for delay prediction, running-time estimation, and train position forecasting using multi-factor operational data, achieving **89% accuracy**.
- **GitHub:** <https://github.com/suhaani-agarwal/metro-mind> **Demo:** [Demo Video Link](#)

Viz AI: Autonomous Interactive Dashboard Generator

- Developed an AI pipeline that transforms raw datasets into multi-plot dashboards with generated insights and analytics.
- Orchestrated a **multi-stage pipeline** coordinating open-source LLMs and models via **LangGraph**, enabling 5+ connected visualizations per dashboard.
- Enabled **LLM-driven natural language edits** for plots & styling, reducing manual dashboard editing time by ~70%.
- Deployed with **FastAPI**, **Next.js**, **Docker**, and **Nginx** for real-time, end-to-end dashboard rendering under 8 sec/request.
- **GitHub:** <https://github.com/suhaani-agarwal/viz.ai> **Demo:** <youtu.be/l8Rc-pFT04c>

Vigilo: AI-driven Compliance Monitoring Platform

- Engineered a platform scraping 5+ government portals (FSSAI, RBI, SEBI, Gazette) to detect regulatory amendments and deliver personalized compliance insights.
- Designed backend with **Python**, **FastAPI**, **PostgreSQL**; stored amendments in **ChromaDB** for RAG-based retrieval.
- Leveraged **LangChain**, **Prompt Chaining**, and open-source **LLMs** (Groq: gpt-oss-120b, 20b; llama-3.3-70b) for automated compliance summarization, achieving ~80% reduction in manual review time.
- Created interactive **Next.js** dashboard with **JWT** auth and programmatic alerts via **SendGrid**.
- **GitHub:** github.com/suhaani-agarwal/Vigilo **Demo:** <youtu.be/2JQx2uyDiXU>

Achievements

- **Winner (Team Leader)**, Smart India Hackathon December 2025
- **1st Place Winner**, Phantom Agents Hackathon, NSUT September 2025
- **1st Runner up**, Hackground Hackathon, TechVerse Nexus September 2025
- **Best WIE Team**, Vihaan8.0 Hackathon, IEEE DTU April 2025
- **2nd Runner Up**, Hack-it-up Hackathon, MSC IGDTUW February 2025
- **Winner**, Foodoscope ForkIt Challenge Hackathon, IIIT Delhi December 2024
- **1st Place Winner**, CodeDay-Delhi Hackathon, IIT Delhi September 2024