Saransh Saini

IIT Madras BSc Degree

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Education

Indian Institute of Technology, Madras (IIT Madras) **Jan 2022 – Apr 2026**

Bachelor of Science (BS) in Data Science and Application (4-year program) | 8.75 CGPA

Delhi Skill and Entrepreneurship University, Delhi **Dec 2021 – Dec 2024**

Bachelor of Science (BSc) in Data Analytics | 8.8 CGPA

Experience

Healthcare Technology Innovation Centre, IITM RP | *AI/ML & Full-Stack Intern* **Jun 2025 – Present**

- Built ACT Labs website with **automated publication scraping** and **AI semantic search**.
- Benchmarked **12+ deep learning models** on challenging **imbalanced medical imaging datasets**.
- Implemented **GraphRAG & RaptorRAG** technologies with **Neo4j** and **LLM based summarization techniques**.
- Assisted in the **Network Connectivity module** of an **Organ Monitoring Device**, making the Arduino system capable of communicating with the internet and publishing results on an online dashboard.

Indian Institute of Technology, Madras | *Teaching Assistant* **Jan 2025 – Apr 2025**

- Taught **Tools in Data Science** course to **1500+** students, dealing with **LLMs, Data Scraping & Analytics**.
- Worked on **bulk assignments and project evaluations**, ensuring timely feedback and academic integrity.

NEXT IAS | *Web Development Intern* **Jan 2024 – Apr 2024**

- Boosted **event registrations by 15%** through improvements to the website's UI/UX design.
- **Designed and developed new web pages**, enhancing the website's overall structure and visual appeal.
- Ensured **98% responsive designs** across all desktop and mobile devices.

Achievements & Publications

Second Runner Up, BharatGen 2025 Hackathon | *June 2025*

- Awarded a cash prize of **₹30,000** for developing **CureCue**, an AI-powered medication adherence assistant.
- Recognized for creating an end-to-end, offline-first mobile solution that simplifies tracking through voice and image interactions.

Technical Report: CureCue: A Smart Adherence Assistant and Reminder System *Link to ResearchGate*

- Published a detailed research report on a multi-model AI pipeline featuring **YOLOv8 (92.3% mAP)** and **Gemini 2.0 Flash**.
- Documented the integration of **Computer Vision** and **Large Language Models** for patient self-care.

Projects

VascCoach: A Knowledge Graph based RAG System for Vascular Aging *(Sep, 2025)* *Go to Project* (NDA)

- Developed a **Retrieval-Augmented Generation (RAG)** pipeline with **Neo4j knowledge graph** backend for storing scientific literature on vascular aging and querying.
- Also, explored **RAPTOR** approach for RAG creation, and worked on generating structured and smart summaries to make the **retrieval mechanism** as accurate as possible.
- Explored mechanisms to **prevent knowledge ambiguity** and **context preservation**. Also, explored other ways like **NER** to find more efficient systems for **triplet creation and context summarization**.

TA-Sim: IITM TA Interview Simulator *(Sep, 2025)* *Go to Project*

- Developed an **end-to-end interview system** using Next.js and Flask to **automate TA candidate screening for Machine Learning courses.**
- Built a **RAG pipeline using ChromaDB and nomic-embeddings** to retrieve lecture-specific context, ensuring interview questions remained grounded in course material.
- Optimized **real-time response evaluation** by deploying Llama 3 via Ollama, generating **contextual feedback** and scoring with low-latency local inference.
- Engineered a **dynamic follow-up logic** that parses user responses to generate adaptive, deeper-level technical questions based on candidate performance.

Shravan: A Companion for a Graceful Age *(Aug, 2025)* *Go to Project*

- Built a **Doctor Finder Engine** using a **5-layer Selenium crawler** and Groq AI to transform unstructured hospital web data into structured profiles.
- Engineered a **dual-LLM system (Gemini 2.0 & Groq)** featuring a medical assistant with safety guardrails and an empathetic companion for seniors.
- Leveraged **Google Maps API** and SQLite for offline-first, radius-based discovery of nearby healthcare facilities.
- Systems like **Medical** and **Companion chatbots** were made by specific prompt engineering on the Gemini 2.0 Flash model.
- Designed a wellness module using **ChatGPT Generative AI to produce sequential Yoga asana** images, delivered via looping mechanism to give an impression of an animation.

CureCue: A Medical Adherence Assistant *(Jun, 2025)* *Go to Project*

- Built a Flutter and Flask-based application utilizing **YOLOv8** for automated expiry date detection **(92.3% mAP)** and **PaddleOCR** for medicine name extraction.
- Integrated **Gemini 2.0 Flash** for voice command parsing with **94.1% intent precision**, enabling hands-free medication scheduling for elderly and visually impaired users.
- Built a **Flutter** and **Flask** based mobile application, which allows the user to **set medicine reminders** and allows the medical practitioners to monitor their patients by creating adherence analysis reports.

Skills & Abilities

Programming and Databases: Python, Java, JavaScript, MySQL, Data Structures and Algorithms (DSA), Cypher (Neo4j)

Data Science: Data Preprocessing, Data Scraping, Machine Learning, Deep Learning

Artificial Intelligence: PyTorch, RAPTOR & Graph RAGs, LLM Agents, Langchains, Ollama

ML Deployment: MLOps, GCP, MLFlow, DVC Version Controlling, Git Version Controlling

Web / App Development: NextJS, VueJS, Flask, SQLite, API Development, Flutter, Android Studio, UI & UX

Language Skills: Hindi (Native), English (Fluent), German (A1 Level)