



Nale Rushikesh Sunil
PG (II Year I Semester)
M.Tech In Artificial Intelligence
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Registration No: 25565007/2027



Area of Interest
Machine Learning, Deep Learning, Data Science & Analytics, Natural Language Processing, Computer Vision

Education

Year	Degree/Examination	Institution/Board	CGPA/Percentage
2026	M.Tech. 1st Year	Indian Institute of Technology, Roorkee	7.367
2025	Graduate (UG)	MIT ADT University	7.860
2021	Intermediate (Class XII)	Sarosh Junior College of Science	92.67 %
2019	Matriculate (Class X)	Alphonsa High School	90.20 %

Internships

AI Research Intern | Dept. of CSE, IIT Roorkee June 2026 - August 2026

- Identified **limitations of standard RAG** in retrieving chart/figure information and designed a **synthetic benchmark** to systematically evaluate multimodal retrieval approaches against published research claims.
- Implemented **6 retrieval/LLM pipelines** spanning **text-only, OCR-augmented, vision-grounded BM25/TF-IDF**, and **Qwen2-VL/Qwen2.5 and Gemini** based chart captioning and answer generation.

Projects

RAG System for Indian Constitutional Law | Primus Partners December 2025 - January 2026

- Built a retrieval-augmented Q&A system combining BM25 and semantic search with custom logic to handle Indian legal article-numbering quirks; deployed via FastAPI + Streamlit + Docker.

LLM Evaluation & Benchmarking Framework | Self Project, IIT Roorkee January 2026 - March 2026

- Designed an automated **RAG evaluation framework** benchmarking retrieval, reranking, and generation configurations using **Recall@K, MRR, nDCG, Context Precision/Recall, Faithfulness, and Answer Relevancy**.
- Evaluated **quality, grounding, latency, and token efficiency** to isolate pipeline bottlenecks and identify the optimal **accuracy-cost-latency trade-off** across configurations.

Smart Parking System for Real-Time Vehicle Monitoring & Entry Logging | MIT ADT University July 2024 - May 2025

- Engineered a real-time **YOLOv8 + OpenCV** vehicle detection pipeline with **OCR-based license-plate recognition** for automated vehicle identification and entry/exit logging.
- Deployed the system via **Streamlit** for real-time visualization and smart-city parking monitoring.

Depression Detection in Adolescents | MIT ADT University July 2024 - November 2024

- Developed a **multimodal depression-assessment pipeline** using the 189-interview DAIC-WOZ corpus, combining textual and visual/behavioral indicators for depression screening.
- Implemented **NLP-based semantic representations** and **CNN-based visual feature extraction**, followed by multimodal feature fusion for binary depression classification.

Personalized Ayurvedic Healthcare | MIT ADT University September 2023 - December 2023

- Streamlined a personalized Ayurvedic healthcare recommendation engine using machine-learning classification to map user health parameters to relevant treatment recommendations.
- Engineered preprocessing and recommendation pipelines using Python and Scikit-learn, achieving **92%** recommendation accuracy.
- Integrated the ML engine with a React JS interface, with the original project reporting a 20% improvement in user well-being.

Awards / Scholarships / Academic Achievements

- GATE CS & IT Secured AIR 1121 with score of 711 among 1.75lakhs+ candidates across the nation in 2025
- Amazon Machine Learning Summer School 2024
- Best Research Paper Presentation Award at National Conference on Global Tech Trend

Skills

Computer languages C, C++, Python, SQL

Software Packages PyTorch, LangChain, OpenCV, Flask, SQLite3, MySQL, FastAPI, Docker, Git/GitHub

Languages Known English, Hindi, Marathi

Positions of Responsibility & Extra Curriculars

Additional Technical Secretary | IIT Roorkee May 2026 - September 2026

- Coordinated technical events across students and Bhawan administration, driving planning, communication, & execution.

Department Academic Program Committee (DAPC) PG Student Representative | IIT Roorkee August 2025 - Present

- Represented PG students in academic discussions, communicating concerns and recommendations to faculties.

- Contingent Leader** | Srishti 2026, IIT Roorkee

March 2026 - June 2026
- Led Bhawan teams across 12+ technical and innovation domains, driving strategy, participation, and execution.
- Happiness Hackathon 2025 - HOPE** | DoMS, IIT Madras

September 2025 - October 2025
- Presented Echo, an idea focused on promoting happiness and well-being at HOPE 2025

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- Research Publications**
- Rushikesh Nale, Ujjwal Kulkarni, Manasi Kulkarni, Tanuja Zende, "Specific Vehicle Detection System", in SSRN, Rushikesh Nale, 2025