

Adesh Anurag

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Professional Summary

ML Engineer & Researcher specializing in Agentic RAG and Predictive Modeling. Expert in bridging academic research and production-ready AI via metadata-aware NLP pipelines and high-fidelity industrial systems.

Education

Dr B R Ambedkar National Institute of Technology, Jalandhar
B.Tech in Civil Engineering

Aug 2023 – July 2027

Experience

AI Research Intern - IIT Guwahati

June 2025 - July 2025

- Built predictive maintenance pipeline for military vehicles using ensemble models, achieving 78% AUC and 66% recall on imbalanced data.
- Applied feature engineering, threshold optimization, and SHAP explainability to identify critical failure causes.
- Delivered deployment-ready pipeline with full documentation, resolving runtime and stability issues.

Projects

AQI Disease Prediction Model - CueTheAQI

[github](#) 

- **Description:** Developed a Flask-based web application that predicts respiratory diseases based on AQI (Air Quality Index) using Machine Learning.
- **Tech Stack:** Python, Flask, Scikit-Learn, Pandas, HTML, CSS, JavaScript, Git, GitHub
- Trained a **Random Forest Classifier** to predict disease likelihood based on AQI levels.
- Implemented **data preprocessing** with Label Encoding and regex-based AQI parsing.

AI-Powered Literary Question Generator

[github](#) 

- Architected an **Agentic RAG Pipeline** using **LangChain** and **Gemini 3 Flash** to perform structural manuscript audits with 2026-tier reasoning.
- Engineered Semantic Retrieval via **FAISS vector store**, reducing query latency for large-scale document analysis.
- Developed multi-intent logic to distinguish between factual data retrieval and high-level narrative auditing.
- Developed **Multi-Intent Logic** using conditional prompting to **distinguish between factual retrieval and high-level narrative auditing**.

Technologies and Skills

Languages: C++, C, Python, JavaScript, HTML, CSS

Machine Learning and Data Science: Scikit-Learn, Pandas, NumPy, Matplotlib, Seaborn

Web Development & APIs : Flask, FastAPI, React.js, Streamlit

Version Control and Deployment: Git, GitHub, Hugging Face Spaces, Render, Google Colab

Soft Skills: Communication, Leadership, Teamwork, Public Speaking , Debating.

Extracurriculars

Google Developer Groups on Campus (GDGC)

- Organizer, NITJ Chapter — Led a community of 50+ developers, organizing technical events, workshops, and hackathons to drive engagement, collaboration, and skill development on campus.