

# HARSHIT GUPTA

GEN AI & ML ENGINEER, TCS

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👤 Harshit-Gupta

## Summary

Gen AI-focused Software Engineer with **2 years** of experience building **LLM-powered systems, RAG pipelines, and ML-driven automation**. Experienced in **LangChain, React Agents, prompt engineering, A/B testing, and model bias mitigation**, with production deployments on **AWS (EC2, S3)** using **Docker and Nginx**. Strong background in classical machine learning, NLP, and computer vision, with proven impact in reducing processing time, improving system accuracy, and automating decision-making workflows.

## Education

### B.Tech in Computer Science and Engineering

Guru Gobind Singh Indraprastha University , New Delhi

Dec 2020 - Jun 2024

CGPA: 9.2/10

## Professional Experience

### Gen AI & ML Engineer, TCS (Ministry of Civil Aviation)

Sept 2024 – Present

- Built an **enterprise-grade RAG system** enabling semantic search across PDFs, SOPs, and tickets, achieving **30% higher answer accuracy** through hybrid (dense + BM25) retrieval and **reducing document lookup time by 60%**.
- Designed an **AI-powered IT support ticket classification and auto-response system** to identify intent and generate context-aware resolutions using GenAI and RAG, **reducing L1 support workload by 40%**.
- Developed a **GenAI-based document comparison system** to validate compliance of candidate documents against a master policy using clause-level semantic matching with RAG, classifying sections as Compliant, Non-Compliant, or Information Not Found with page-level citations, **cutting manual review effort by 50%**.

### AI/ML Intern, Netcore Cloud, Bangalore

Aug 2023 - Jun 2024

- Worked on Netcore SmartTech platform, a customer engagement and analytics solution, to **detect anomalies with 95% accuracy** across channels like Emails and SMS, and enabling real-time alerts via Slack integration
- Conducted a GenAI-based POC to generate natural language insights and summaries for non-technical stakeholders helping product and operations teams understand campaign performance faster

## Projects

### Resume Screening & Candidate Ranking using GenAI

- Built a **GenAI-based resume screening and candidate ranking system** to parse resumes and match them against job descriptions using **semantic similarity**.
- Generated **explainable fit scores** across **skills, experience, and role alignment**, enabling transparent and bias-aware candidate evaluation.
- Tech:** GPT-4, SentenceTransformers, FAISS, spaCy, PyMuPDF, FastAPI

## Technical Skills

**Programming:** Python, C++, Java, SQL.

**GenAI and LLMs:** Retrieval-Augmented Generation (RAG), Langchain (React Agents), LlamaIndex, Embeddings Vector Search, Prompt Engineering, Multimodal AI (Text–Image), Fine-tuning , A/B Testing, Hallucination Mitigation, Model Bias Detection.

**Frameworks & Libraries :** Scikit-learn, PyTorch, TensorFlow, Keras, LangChain, FastAPI, HuggingFace, Transformers, Pandas, Numpy, OpenCV.

**Databases & Storage:** MySQL, PostgreSQL, SQL Server, MongoDB, Vector Databases (FAISS / ChromaDB / PineCone)

**Cloud, DevOps & MLOps:** AWS, Docker, CI/CD Pipelines, Model Deployment & Monitoring, Apache Tomcat

**Version Control:** Git, GitHub, SVN

## Academics Accomplishments & Extracurricular

- Winner of the **TCS Internal Hackathon**, leading a **team of 4** to deliver a high-impact technical solution.
- Winner of the **ISRO Hackathon**, leading a **team of 4** in building an AI-driven solution for video analytics.
- Won **2nd position** in **Crack the Code**, an inter-university competitive coding competition.
- Microsoft Office Specialist – Excel 2016:** Bronze Medalist, secured **AIR-3** at the national level.
- Achieved **1st Runner-Up** across India in **Microsoft Office Specialist – Word 2016**.