Anirudh Malik

ML Engineer — Data Scientist

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SUMMARY

I am a Scientific Software Engineer and Data Scientist with a robust background in AI product development, MLOps, and cloud deployment. I possess strong skills in Python, SQL, and C++, as well as familiarity with frameworks like TensorFlow and PyTorch. I am committed to building scalable ML pipelines and solving complex real-world problems in science and computation.

EXPERIENCE

AI/ML Specialist — *Imagenators*
Noida — **05/2025 – Present**

- Built a RAG-based alumni chatbot using Ollama + Mistral, LangChain, Django, and ChromaDB
- Benchmarked GenAI vs classical NLP for accurate information retrieval

Trainee Developer — *Dev Group*
New Delhi — **02/2025 – 05/2025**

- Prototyped AI tools using Python, REST APIs, and LangChain
- Developed a CO_2 emission estimator using Flask, Pickle, MLFlow on AWS

Research Associate — **IIT Delhi**
Delhi, India — **04/2025 – Present**

- Simulated $gg \rightarrow H \rightarrow \tau^+\tau^-$ using MadGraph5, Pythia8, and Delphes
- Optimized selection cuts with ROOT and Python for background rejection

Graduate Researcher — **University of Sheffield, UK**
Sheffield, UK — **09/2023 – 09/2024**

- Built PICNN classifiers for $Z \rightarrow e^+e^-$ using ATLAS MC data
- Applied Optimal Transport to match AF3 and Geant4 simulations

Undergraduate Researcher — **University of Delhi**
Delhi, India — **09/2022 – 05/2023**

- Simulated surface plasmon resonance (SPR) via DDSCAT
- Studied dielectric, piezoelectric behavior of $AgNO_3$ nanomaterials

EDUCATION

MSc in Particle Physics — University of Sheffield, UK
09/2023 – 09/2024 — *First Division*

BSc in Physical Science — University of Delhi, India
09/2020 – 09/2023 — *Distinction*

Senior Secondary, ISC — Mount Carmel School
09/2018 – 09/2020 — *94%*

KEY ACHIEVEMENTS

Alumni Chatbot Development – Freelanced
Successfully developed and deployed an innovative alumni chatbot that enhances user interactions.

High-Energy Physics Simulation
Contributed to advanced simulations in high-energy physics which enhance deep learning algorithms.

SKILLS

- Python (NumPy, Pandas, Scikit-learn)
- PyTorch, TensorFlow
- Bash Scripting (Linux)
- Apache Airflow and Spark
- MLflow, MLOps
- REST APIs, Flask
- AWS (EC2, Lambda)
- Kubernetes, Docker
- Git, GitHub, GitLab
- PostgreSQL, MongoDB, Oracle
- Matplotlib, Seaborn
- C/C++, CUDA
- SQL, Streamlit
- NLP, Transformers

PROJECTS

3D Schrödinger Solver
- Solved 3D time-independent Schrödinger equation and benchmarked CPU vs GPU

Retail Sales Forecasting
- ML pipeline with Airflow, MLFlow, Flask; deployed on AWS

Fraud Detection System
- Spark-based fraud detection system using AWS Lambda

YouTube Comment Analysis
- Built a transformer-based sentiment classifier

INTERESTS

- 📈 Statistical modeling and data-driven decision making
- 🧠 Generative AI, LLM applications, and prompt engineering
- 🔀 Building scalable ML systems and MLOps pipelines
- 🗂 Data visualization and storytelling with data
- 🤖 Developing AI tools for automation and intelligent systems

CERTIFICATIONS

- **Data Science, ML, DL, NLP** — Udemy
- **Mastering SQL & Analytics** — Udemy
- **MLOps Bootcamp, DL Specialization** — Udemy
- **Python for Data Analytics** — Learntube.ai

LANGUAGES

English — Professional **Hindi** — Native