ARANYA JANA

AI/ML Engineer | Python | Machine Learning | NLP | RAG | LangChain
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Professional Summary

M.Tech candidate in Computer Science Engineering (AI & ML) with hands-on experience in **Machine Learning, NLP, and Generative AI**, including BART-based research on cyberbullying detection. Skilled in building **agentic AI applications** with LangGraph and LangChain and **RAG platforms** using Python and FastAPI. Proficient in SQL-based analysis, data visualization, and dashboarding. Seeking **AI Engineer or AI/ML Engineer** roles.

Technical Skills

Programming Languages: Python, C++, SQL
Machine Learning & Deep Learning: Scikit-learn, NLP, Pandas, NumPy, Basic of TensorFlow and PyTorch
Data Visualization & BI: Tableau, Power BI, Pentaho
Databases: MySQL
Developer Tools & Platforms: Git, Docker, CI/CD Pipelines, Cloud Platforms
Generative AI: LangGraph, RAG, Vector Databases (ChromaDB)

Research Experience

Deep Learning with a Human Touch: Detecting Cyberbullying Through Empathy-Informed Models **Link**
Final Year Research Paper | Springer SIST, Vol. 484 (SSWC 2025) | Nov 2024 – June 2025

- Published in **Springer** *Smart Systems and Wireless Communication* (SSWC 2025 proceedings), pp. 191–202.
- Explored **BART** and ML models (SVM, Random Forest, Neural Networks) for cyberbullying detection.
- Utilized **NLP** for text preprocessing, sentiment analysis, and feature extraction.
- Optimized **BART** models to enhance accuracy and reduce prediction time.

Projects

RAGShield – Secure RAG Platform — *React, TypeScript, FastAPI, Python, RAG, LLM, ChromaDB* **Link**

- Built a security-focused **RAG platform** to detect and mitigate **prompt injection, document poisoning, malicious content, and sensitive-data leakage** across retrieval pipelines.
- Implemented document provenance and integrity controls using **SHA-256 verification**, security scoring, quarantine/restore workflows, threat detection, and security audit logging.
- Developed a **Security Command Center** with live security posture, threat-channel monitoring, 24-hour activity tracking, and authentication/authorization visibility.

Agentic AI Trip Planner — *Python, LangGraph, LangChain, Generative AI, NLP, LLMOps* **Link**

- Developed an **agentic AI-powered** travel planning application using **LangChain** that generates personalized itineraries with real-time weather, attractions, hotel pricing, and currency conversion data.
- Designed autonomous AI agent workflows to collect travel data, optimize schedules, estimate trip budgets, and provide intelligent travel recommendations for global destinations.
- Built smart itinerary and expense management features, including day-wise trip planning, hotel cost estimation, activity suggestions, and AI-generated travel summaries using Python and uv package management.

Celebrity Face Matcher — *Python, DeepFace, Deep Learning, Streamlit* **Link**

- Built a **facial recognition system** using **DeepFace** and cosine similarity to identify Bollywood celebrity look-alikes from user-uploaded images.
- Created an interactive Streamlit app for real-time face capture, embedding generation, and match visualization.

Achievements

NPTEL Elite Certification – Python for Data Science — *IIT Madras, NPTEL | Jul–Aug 2026* **Certificate**

- Earned the **Elite certification** with a consolidated score of **75%**.

Education

Institute of Engineering and Management 2025 – Present
M.Tech in Computer Science and Engineering (AI & ML), CGPA: 8.88

Narula Institute of Technology 2021 – 2025
B.Tech in Computer Science and Engineering (AI & ML), CGPA: 7.65