Akshat Nigam

+91 6307177166 | nakshat2103@gmail.com

PROFILE

Passionate Computer Science undergraduate with a strong foundation in **AI, Machine Learning, and full-stack development. Skilled in Retrieval-Augmented Generation (RAG), Agentic AI, and Large Language Models,** with a track record of designing impactful solutions. Experienced in developing AI-driven applications, analyzing complex data, and integrating cutting-edge frameworks. Enthusiastic about leveraging technology to drive social impact, enhance decision-making, and build scalable, user-centric solutions..

EDUCATION

Thapar Institute of Engineering and Technology	Patiala, Punjab
Bachelor's of Technology in Computer Science and Business System	*Sep 2022 - Present*
Swaraj India Public School	Kanpur, Uttar Pradesh
Indian School Certificate	*2020 - 2022*

COURSES AND CERTIFICATIONS

Data Analysis with Python	IBM
Certificate Link	*Grade:* **92%**
Natural Language Processing	DeepLearning.AI
Certificate Link	*Grade:* **97.72%**

PROJECTS

Backdoor Attacks Detection Using Neural Networks | *Python, TensorFlow*   August,2023 - October,2023
- **Identified and analyzed common techniques** used by attackers to implant backdoors in machine-learning models
- **Augumented a dataset with over 42000 images** classified in 9 different categories of backdoor attacks
- Developed highly accurate Deep Learning model that can detect various types of Backdoor Attacks on Machine Learning models with a **high degree of Precision and Recall**
- Obtained a **max Precision of 98.06 Percent** by using **Transfer Learning technique** on VGG-16 model

Medical AI Chatbot | *Python, Langchain*   February, 2024 - April,2024
- Built a chatbot using **LangChain, FAISS**, and **LLama-2** to answer medical queries with accuracy.
- Embedded medical PDFs using **HuggingFace models** and stored them in a **FAISS vector database** for efficient search.
- Integrated Chainlit to create a user-friendly chatbot experience with real-time query handling and source tracking.

Twitter Sentiment Analysis Dashboard | *Python, Selenium, HuggingFace*   October, 2024
- Developed a real-time Twitter analysis platform that scrapes tweets using **Selenium** and provides actionable insights on user-selected topics.
- Integrated **HuggingFace Transformers** to gauge user sentiment, **RAG (Retrieval-Augmented Generation)** for summarizing large sets of tweets effectively, and **LDA (Latent Dirichlet Allocation)** for advance topic modeling, categorizing tweets into themes.
- Built an interactive dashboard to visualize user engagement metrics, trending topics, sentiment analysis, and topic-specific summaries.
- Demonstrated use cases such as brand monitoring, competitor analysis, and issue categorization with data-driven visualizations.

TECHNICAL SKILLS

Languages: HTML/CSS, Python, Java, JavaScript, SQL
Frameworks: SKlearn, TensorFlow, HuggingFace, React, SpringBoot, Langchain,CrewAI
Tech Stack: Data Science, Deep Learning, Generative AI, Full-Stack Development, DSA, Agentic AI

ACHIEVEMENTS

SatHack 2024: 1st Place in Open Innovation category.

Amazon ML Challenge 2024: All-India Rank 273 among 80,000+ participants.

Adobe Gen AI Hackathon 2024: Ranked top 5% nationwide.

Scholarship: Merit scholarship at Thapar Institute of Engineering and Technology.