

KUSHAGRA DHINGRA

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EDUCATION

Vellore Institute of Technology B.Tech-Computer Science with spl(AI and Robotics) CGPA: 7.80	Chennai, TN Aug 2021 - Present
Siddhartha Public School CBSE 12th Percentage: 91.8%	New Delhi Apr 2020 - Apr 2021
Scholars Rosary School CBSE 10th Percentage: 93.4%	Rohtak Jun 2005 - Apr 2020

EXPERIENCE

- Velocitai Digital, PYTHON DEVELOPER (Certificate)** Aug 2023 - Oct 2023
 - Collaborated with the tech team to analyse large datasets using Python libraries such as NumPy, scikit-learn and NLTK
 - Worked on multiple sentiment analysis projects, contributing to developing a website designed to gather insights from US citizens through data collected from Twitter and other social media platforms.
 - Played a key role in data preprocessing and cleansing to ensure the accuracy and reliability of the analysis.
 - Applied Machine Learning Techniques and NLP processing to extract meaningful insights from unstructured data.
- Tech Mahindra, INTERN (LOI)** Oct 2023 - Dec 2023
 - Collaborated with the QA team to test websites and servers, identifying and resolving potential issues to maintain high standards of functionality and reliability.
 - Contributed to quality assurance processes by verifying the accuracy and efficiency of various systems during development and deployment.
 - Analyzed, preprocessed, and cleansed large datasets to ensure data quality and reliability for machine learning model training and deployment

SKILLS

Programming Languages: Python, SQL

Libraries and Frameworks: Beautiful Soup, Sci-kit-learn, TensorFlow, Keras, Hugging Face, Pandas, Numpy, Seaborn, Matplotlib

Tools and Platforms: Git, Visual Studio Code, Google Colab, Jupyter Notebook, PowerBi, Excel

Courses: AI and ML, Natural Language Processing, Database Management System, Operating System, Prompt Engineering, GenAI foundation

Soft Skills: Communication, Teamwork, Adaptability, Leadership

PROJECTS

Lexigen – Multimodal AI Prompt Generator

- Building a prompt-generation web application integrating GPT-4, Claude 2, and Gemini via modular API connectors, developed using React and Node.js, supporting multimodal inputs (text + image) and optimized for LLM routing and response quality

Electricity Theft Detection Using ML & XGBoost

- Designed an end-to-end detection system using XGBoost, CatBoost, and Random Forest with ADASYN and SMOTETomek for data balancing, KNN for imputation, and FFT, Kalman filtering, and PCA for feature extraction, culminating in model explainability via SHAP.

Duplicate Question Detection – NLP

- Built a semantic similarity detection pipeline using the Quora dataset, applying TF-IDF, Word2Vec, and XGBoost models in an ensemble approach, resulting in high-accuracy duplicate question classification for improving Q&A platforms.

Oncology RAG App – Powered by Meditron 7B Medical LLM

- Developed a Retrieval-Augmented Generation (RAG) application for medical question-answering using Meditron-7B (fine-tuned Llama-2 model) with PubMedBERT-based embeddings for semantic search, integrated via LangChain and Qdrant vector database in a fully local Dockerized setup.

Direction of Arrival Estimation Using Acoustic Sensors

- Engineered an acoustic localisation system by preprocessing multi-channel audio signals and training ML regression models to estimate source direction, enabling efficient and accurate Direction of Arrival (DOA) prediction.

CERTIFICATIONS

- Completion of Python 3.4.3,C and Advanced cpp from IIT Bombay (Certificate)
- Machine Learning by IBM with Python (IBM)
- Data Preprocessing by Google (Google)
- AI AND ML Algorithms by Microsoft (Microsoft)
- GenAI Foundational Models for NLP&Language Understanding (IBM)
- AI Applications in Marketing and Finance by University of Pennsylvania (UOP)