HCLTech

Sunil Nagar

Software Engineer

sunil.nagar@hcltech.com

A skilled Machine Learning, Python and AI enthusiast with strong background in developing innovative solutions to complex problems. Proficient in designing and implementing advanced models, leveraging data to derive actionable insights and optimize business strategies. Skilled in Python, ML, SQL and RAG, LLM, NLP.

Technical Skills

Proficiencies:. Python, SQL, Machine Learning & Algorithms, Fast API, Restful API ,LLM, RAG, NLP, Deep Learning, Unit Testing

Supporting Skills: Pandas, numpy, Matplotlib, Seaborn,Scikit-learn, Statistics, S3-Bucket, PowerBI

Education

Institute	Education	Year
IIT Madras	BTech – Metallurgical and Materials Engineering	2019-2023
Shiv Jyoti Convent School	12th	2017 - 2018
Hind Zinc School	10th	2015-2016

Technical Certifications: Data Science Bootcamp Certification, Certification for Python, SQL, Power BI, Excel, Databricks PreSales Partner Badge GenAI & LLM.

Key Projects Undertaken

S.no	Customer Name - Project Title	Description	Duration (Years)
1	Client Project - Northwestern Mutual	• Worked on **RAG features** by integrating scanned PDF processing with **Pytesseract OCR** to extract text. • Applied **NLP text cleaning** on the extracted data and created semantic and fixed-length **chunks** for better text handling. • Utilized **Amazon-Titan embedding service** to generate embeddings and stored them in **PostgreSQL** with **pgvector** for efficient indexing. • Retrieved relevant chunks from the database and generated responses using **Claude LLM**. • Created FastAPI endpoint for the RAG feature. • Conducted **API testing** using **Pytest** and **Bruno** to ensure functionality and reliability.	0.3
2	Capstone Project – Demand Estimation	• Developed Time-series models to forecast electricity demand for 1-2 years. • Evaluated models using error metrics (RMSE,MAPE,RMSPE) to ensure accuracy. • Preprocessed 47 years data of monthly consumption data, identifying trends and seasonability. • Compared statistical and ML models to recommend the best fit forecasting solution.	0.25