

MADHUSUDAN KUMAR

Senior Data Scientist

✉ kumarmadhusudhan689@gmail.com

☎ +91 9969072292

🌐 max12525k

🌐 max12525



PROFESSIONAL EXPERIENCE

ML Engineer | Prompt Engineer

Meta Contractor | Unifytech

📅 Nov 2023 - Ongoing

📍 Mumbai

- Researched and implemented prompt engineering technique on RAG system to improve models question answer ability.

NLP RAG GenAI VectorDB LLM Prompt Tuning

Senior Data Scientist

SecureThings.ai

📅 Sep 2022 - Sep 2023

📍 Pune, India

- Implemented spacy pipeline to extract cybersecurity 50+ labels and 20+ relationships from 2 million plus semi-structured texts to generate knowledge graph with 70+ accuracy.
- Designed and developed LLM pipeline using LangChain to improve labels and relationship extraction by 15% and reducing the time taken by 90%.
- Collaborated with stakeholders to design and create data pipeline, ML pipeline and ML operation on AWS cloud using IaC, reducing the cloud management time by 70%, cloud cost by 50% and product deployment time by 80%.
- Responsible for end-to-end development and execution of back-end application, supporting a product featuring 15+ screens and over 50 API integrations.

NLP NER FastAPI PyTorch Docker IaC LLM

Senior Data Scientist

Tata Consultancy Services

📅 Apr 2019 - Sep 2022

📍 Mumbai, India

- Led the team of 5 developers for web based ML exploration tool for 40% faster development and deployment of ML usecases in telecom domain.
- Designed ML solution for 10+ usecase from scratch for telecom fault and performance management leading to decrease in 15% reduction in events and enable close loop automation for 25% event.

Data Scientist

- Proposed, designed & built Python package for integration of 24+ ML use cases across 4+ applications, reducing integration time by 60%.
- Enabled one day ahead predictive maintenance, reduced ticket generation by 6% and optimised network performance using forecasting, clustering and anomaly detection techniques, reducing the operation cost by 18% (POC).

Mlxtend Xgboost Pyod AZURE VM Pytest Mlflow
Statsmodels Scikit-learn SARIMAX ETS Plotly NLP

SKILLS

Python RAG Scikit-learn VectorDB

GenAI Keras PyTorch LangChain

FastAPI MongoDB SQL MLOPS

Git IaC AWS Linux Docker

EDUCATION

M.Tech in Mechanical Engineering

IIT-B

📅 Jul 2017 - Nov 2018

- Successfully designed process to predict failure time of machines on the network to minimize the operation down time.
- Proposed and implemented standard template using owl ontology to digitally store properties of machine component from different vendors.
- Successfully modeled estimation of reliability of mechanical components from loading condition to estimate the time of failure enabling predictive maintenance

B.Tech in Mechanical Engineering

IIT-B

📅 Jul 2013 - Jun 2017

- Attended courses related to statistics, data analysis and mechanical engineering.
- Successfully headed official video channel, leading a team of 6 conveners, creating 60+ videos and covering 35+ events, with nearly 2 million views.

Internship in Non Linear Dynamics

Chiba University

📅 May 2016 - Jun 2016

- Researched on pattern formation and created meaningful visualization.

EXTRACURRICULAR

- Core team member of "Mechanical Freshie", a video with more than 630,000 views.
- Supported students with physics classes for IIT-JEE exam.

