# MADHUSUDAN KUMAR

#### **Senior Data Scientist**



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max12525k

in 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 GenAl 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 backend 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**

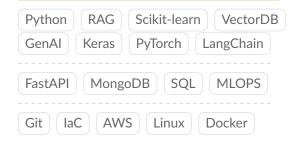
- Apr 2019 Sep 2022
- Mumbai, India
- Led the team of 5 developers for web based ML exploration tool for 40% faster development and deployment of ML usecases in telecom domain.
- Designed ML solution for 10+ usecase from scratch for telecom fault and performance management leading to decrease in 15% 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 dectection techniques, reducing the operation cost by 18% (POC).

Mlextend	Xgboost	Pyod	AZURE	VM	Pytest	Mlflow
Statsmodels	Scikit-le	arn (	SARIMAX	ETS	Plotly	NLP

### **SKILLS**



### **EDUCATION**

# M.Tech in Mechanical Engineering IIT-B

- **J**ul 2017 Nov 2018
- Sucessfully 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.
- Sucessfully 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

- **J**ul 2013 Jun 2017
- Attended courses related to statistics, data analysis and mechanical engineering.
- Sucessfully 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.