

MADHUSUDAN KUMAR

Data Scientist

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PROFESSIONAL EXPERIENCE

Data Scientist (R&D)

Tata Consultancy Services

📅 Apr 2019 - Ongoing

📍 Mumbai, India

Telecommunication

- Proposed, designed & built Python package for integration of 24+ ML use cases across 4+ applications, reducing integration time by 60%
- Developed GUI application for end to end exploration of ML use cases by data scientist and domain expert alike
- Improved predictive maintenance by one day-ahead forecasting of faults (CORE & RAN) (POC)
- Reduced number of tickets by automating the identification of alarm's cluster with root alarm (POC)
- Improved network performance by deploying real time anomaly detection of network loss and latency on azure cloud (POC)
- Mentored two peers for integration of ML use cases across 4+ applications

Association rule mining Elasticsearch Anomaly detection

Scikit-learn Pytest Leadership Communication TDD

Insurance

- Automated and optimised monthly forecasting of claims paid and premium collected, reducing average Mape by 10%
- Explored and generated Covid-19 business impact report against all policies

Timeseries forecasting SQL Data wrangling ARIMA

Research Internship

Chiba University

📅 May 2016 - Jun 2016

📍 Chiba, Japan

- Explored linear diffusive coupled neurons (FHN coupled system) with heterogeneous external forcing to study pattern formation
- Conducted nonlinear stability analysis to obtain significant parameters & visualize their behaviour near stability points to understand contribution to pattern formation

Visualization MATLAB Linear algebra

POSITION OF RESPONSIBILITY

Overall Coordinator

IIT-BBC

📅 Apr 2015 - Mar 2016

📍 Mumbai, India

- Successfully headed official video channel, leading a team of 6 conveners, creating 60+ videos and covering 35+ events, with nearly 2 million views

Leadership Communication Video editing

SKILLS

Python NumPy Plotly Pytest

Scikit-learn Pandas Fastai

FastAPI SQL Elasticsearch

Git/GitHub Azure Linux Docker

EDUCATION

M.Tech in Mechanical Engineering

IIT-B

📅 Jul 2017 - Nov 2018

- Specialization in CADA
- Successfully designed process to predict the failure time of new installed machine on the network to minimize the operation down time
- Proposed and implemented standard template to digitally store properties of machine component from different vendors, optimising the digital processing of components

B.Tech in Mechanical Engineering

IIT-B

📅 Jul 2013 - Jun 2017

- Data Analysis and Interpretation
- Statistical Machine Learning and Data Mining

EXTRACURRICULAR

- Mentored 100+ students to produce 20+ short films during Freshizza festival
- Core team member of "Mechanical Freshie", a video with more than 630,000 views
- Supported students with physics classes for IIT-JEE exam

CERTIFICATION

- Data Analysis with Pandas and Python
- Python for Timeseries Data Analysis