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 70%
- Developed GUI application for end to end exploration of ML use cases
- Improved predictive maintenance by one day-ahead forecasting of faults (CORE & RAN)
- Reduced number of tickets by automating the identification of alarm's cluster with root alarm
- Implemented and deployed real time anomaly detection on Azure, reducing detection time by 12 minutes
- 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 across 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 thier behaviour near stability points to understand contribution to pattern formation

Visualization   MATLAB   Linear Algebra

POSITION OF RESPONSIBILITY

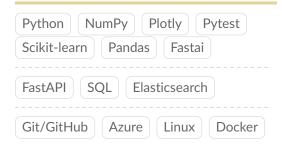### Overall Coordinator
IIT-BBC

📅 Apr 2015 - Mar 2016   📍 Mumbai, India

- Sucessfully 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

📅 July 2017 - Nov 2018

- Specialization in CADA
- Sucessfully 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

📅 July 2013 - June 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 (Udemy)
- Python for Timeseries Data Analysis (Udemy)