RAJ PAWAR

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ABOUT

As a passionate Data Scientist currently pursuing my Master's at Technical University Dortmund, I specialize in machine learning, regression analysis, statistical modeling, and data visualization. I have a strong focus on image classification and segmentation tasks, evidenced by my recent project with Industrial Data Science II subject at TU Dortmund, where I utilized **YOLO** and **CNN** models to classify and segment metal and non-metal particles from images. My academic background, combined with hands-on experience in data analysis, has equipped me with the skills to tackle complex data science challenges.

In my role as a Software Engineer at ADVISORI FTC, I gained proficiency in developing REST web APIs using Java and Angular, further showcasing my ability to learn and apply new technologies quickly. Participation in the ADVISORI FTC GmbH Hackathon allowed me to develop an innovative AI solution for test case validation, deepening my expertise in **AI models**, AWS Bedrock, and **prompt engineering**.

Previously, as a .NET Developer at Xcellence-IT, I developed web applications, implemented REST web APIs, and optimized performance. My commitment to **teamwork, creativity, and delivering quality solutions** is complemented by my strong foundation in **data science principles and methodologies**. I am eager to apply my skills to innovative projects and drive **impactful results in data-driven environments.**

EDUCATION

Master of Data Science, Technical University Dortmund   Expected 2025
Relevant Coursework: Big Data, Statistical Learning, NLP, and Industrial Data Science.

Bachelor of Computer Science, Gujarat Technological University, INDIA   2015 - 2019
Final grade: 1.7

SKILLS

Programming Languages	Python, R, SQL, C#, Java, Frontend (Angular)
Database Management	MSSQL Database, Linq, Entity Framework, Relational databases
Data Science	Machine learning, Regression analysis, Statistical modeling, Data Collection, Data Cleaning, Data Analysis, Data Visualizations, OpenCV, Scikit-learn, NumPy, Pandas, SciPy, Matplotlib, Descriptive Analysis, Model Performance Evaluation, Classification, Regularization, Hyperparameter Tuning, Unsupervised learning, Clustering
Software Development	Software Engineering, Algorithms, Object-Oriented Programming, Web Development, RESTful API
Tools	Jupyter Notebook, R Studio, Git
AI & Prompt Engineering	Generative AI model customization, Stable Diffusion, ComfyUI

PROJECTS

Image Classification and Segmentation of Metal and Non-Metal Particles. (PartikelART) Project at TU Dortmund. Utilized **YOLO, CNN & U-Net** models for image classification and segmentation. Worked with high-resolution microscope images and low-resolution mobile phone images. Addressed challenges related to data quality and variability. View Github Repo.

Seminar - Anonymization of Georeferenced Microdata. Gave seminar on "The verified neighbor approach to geoprivacy: An improved method for geographic masking". I explained a paper published by Wayne Richter explaining a improved method for geomasking georeferenced microdata at university **TH Köln.**

Descriptive analysis of demographic data. Analyzed mortality rates and life expectancy data. Conducted frequency distributions, bivariate correlations, and studied variations in data. **Explored changes in variables using descriptive statistical techniques such as histograms, correlations, box plots, and scatter plots.** (view)

Comparison of multiple distributions. Conducted **global tests** and performed **two-sample tests** to identify pairwise differences. Applied Bonferroni and Holm-Bonferroni multiple comparison correction methods. Verified assumptions and compared results with and without adjustment for **multiple testing.** (view)

Regression analysis. Created **linear regression model's.** Used Akaike information criterion & Bayesian information criterion to identify the best set of explanatory variables. Interpreted coefficients, provided confidence intervals, and **evaluated goodness of fit.** (view)

EXPERIENCE

Software Engineer (Remote) — Feb 2024 - Current
ADVISORI-FTC — *Frankfurt, Germany*

- Java, Spring Boot, Hibernate, SQL, Angular, REST web API's.

.Net Developer — Jan 2019 - Dec 2020
Xcellence-IT — *Surat, India*

- E-commerce web application development & Performance optimization.
- REST web API's.
- Project requirement analysis.

CERTIFICATIONS

- **Data Science Orientation.** Gained valuable insights into the powerful influence of data science, AI, and machine learning on modern business and research. My learning has equipped me with a strong understanding of the current data science (view).

- **Python for Data Science, AI & Development.** Developed Python skills, mastered core concepts like critical data structures and programming fundamentals, alongside hands-on experience with key data science libraries. (view).

- **Tools for Data Science.** learned the Data Scientist's toolkit, encompassing Libraries & Packages, Data sets, Machine learning models & Big Data tools. Gained fluency in Python, R & SQL, along with practical expertise in Jupyter notebook, RStudio & manage data science projects on Git. (view).

LANGUAGE SKILLS

- **English: B2** (Listening, Reading, Writing), **C1** (Speaking)
- **German: A1**