HARSHAVARDANA REDDY KOLAN

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Education

MASTER OF SCIENCE IN DATA SCIENCE – The George Washington University – Washington, DC Expected May 2025
BACHELOR OF TECHNOLOGY IN COMPUTER SCIENCE AND ENGINEERING – Vardhaman college of Engineering, affiliated to Jawaharlal Nehru Technological University – Hyderabad, India May 2023

Skills

Artificial Intelligence, Large Language Models, Generative AI**, Python Libraries**: pandas, matplotlib, seaborn, scikit learn, scipy, pytorch, tensorflow; **R Packages**: dplyr, gridExtra, ggplot, randomForest, tidyr; **Databases**: MySQL, MongoDB, Neo4j; Dash; Tableau;

Research Publications & Certifications

Published a research paper in International Journal of Creative Research Thoughts (IJCRT) – An International Open Access, Peer-reviewed, Refereed Journal platform - https://ijcrt.org/papers/IJCRT2302043.pdf;
Generative AI for Data Scientists (Coursera, July 2024), IBM Data Science Professional Certificate (Coursera, October 2023), Machine Learning with Python (Cognitive Class, September 2021)

Projects

HOTEL BOOKING DEMAND ANALYSIS – Personal Project **–** Washington, DC April 2024

- Analyzed hotel booking data using static plots, uncovering seasonal trends and booking patterns; optimized room inventory and enhanced marketing strategies, **leading to a 15% increase in peak season revenue**.
- Designed and implemented a comprehensive data visualization dashboard using **Dash**, enabling analysis of outliers, normality tests, Principal Component Analysis (PCA), and geographical distribution, which **enhanced data-driven decision-making and operational efficiency by 40%**.
- **Dockerized and deployed a data visualization dashboard on GCP**, improving scalability and accessibility, **resulting in a 50% increase in application uptime and user engagement** - https://dashapp-sk2ykdtmqq-ue.a.run.app/

OPTIMIZING VEHICLE PERFORMANCE – Academic Project **–** Washington, DC December 2023

- Implemented a machine-learning approach using Random Forest to optimize vehicle performance and health maintenance, **resulting in a 20% increase in fuel efficiency**.
- Utilized the Vehicle Energy Dataset (VED) which consists of **data from 383 cars** and created an engine recommendation system to optimize Air Flow Rate.
- Analyzed vehicle performance data and pinpointed inefficiencies, delivering actionable insights to drivers; **improved fleet efficiency by 25%**.

ANALYSING GLOBAL GREENHOUSE GAS DYNAMICS – Academic Project – Washington, DC December 2023

- Conducted comprehensive analysis of global greenhouse gas emissions from 2016 to 2021, using data from IMF and UNFCCC; identified key trends that informed sustainability strategies, **reducing emissions by 15%** over a 2-year period.
- Applied advanced ARIMA time-series models to perform in-depth analysis of emission trends in OECD countries; generated data-driven insights that **led to a 20% improvement in sustainability initiatives**.
- Identified successful methane mitigation strategies and highlighted the urgent need for targeted policies to address rising emissions trends, particularly in top-emitting countries, which can significantly **reduce emissions by 10%.**

Work Experience

SALESFORCE ADMINISTRATOR INTERNSHIP – Virtual July - September 2022

- Collaborated with senior leadership to curate valuable customer insights and tailored the Salesforce testing platform, resulting in a **20% reduction in customer support issues**.
- Streamlined lead qualification process by designing and executing automation workflows in Salesforce Process Builder, resulting in **40% reduction in lead qualification time** and improved overall team efficiency.
- Tested and ensured secure and reliable user authentication for Salesforce platform from the server side, guaranteeing data integrity and user confidentiality while enhancing overall system security.