DATA SCIENTIST(INTERN) ASSIGNMENT

Testcase Description:

Analyzing Vehicle Dataset:

- Taabi is SaaS company that help businesses identify the problematic factors in the operation in real-time and take swift actions to reduce cost and increase uptime for Fleets. Taabi Solutions utilize IoT devices data to monitor your operations in terms of fuel specifics, vehicle health status, route details, and driver behavior. we deal with a diverse range of automobile data to provide insights and solutions.

- In this task, you will be working with vehicle dataset to perform   extract meaningful insights.

- Your task is to conduct exploratory data analysis on the provided vehicles dataset. By analyzing the dataset, we aim to gain insights into various aspects of vehicles attributes and trends. Your analysis will help us understand the data better and identify potential areas for further investigation.

- Dataset will be attached with mail.

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Assignment Objectives:

Data loading and preparation:

- Load the dataset and inspect its structure.
- Identify the types of variables (numerical, categorical, etc.).
- Determine the size of the dataset (number of rows and columns).
- Identify missing values and any irregularities in the data.

Data cleaning and preprocessing:

- Handle missing values appropriately.
- Convert data types if necessary.
- Handle duplicate records, if any.
- Handle outliers, if any

Exploratory data analysis:

- Perform univariate analysis on numerical and categorical features.
- Perform bivariate analysis to find relationships between different variables.
- Create visualizations to support your findings.
- Identify outliers and unusual patterns.

Feature Engineering:

- Create new features from existing data that could provide additional insights.
- Standardize or normalize features if necessary.

Insights and Recommendations:

- Provide a summary of the key insights derived from your analysis.
- Based on your findings, make recommendations that could help improve vehicle performance, fuel efficiency, safety, or emissions.

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Submission Guidelines:

1. Submit the Jupyter Notebook or Python script along with the report in PDF format via the designated submission channel.

2. Ensure that the code is well-documented and easily understandable.

3. Include appropriate headings, comments, and explanations to guide the reader through the analysis process.

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Evaluation Criteria:

1. Data loading and preprocessing: 10%
2. Exploratory data analysis: 30%
3. Statistical analysis: 25%
4. Insights and recommendations: 20%
5. Code readability and documentation: 15%

Additional Notes:

- You are encouraged to explore additional analysis techniques and visualizations beyond the specified tasks to gain deeper insights into the dataset.

- Plagiarism will not be tolerated, and any instances of dishonesty will result in disqualification from the hiring process.

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Thank You

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