

Electric Vehicle Population Data - Exploratory Data Analysis (EDA) Project Description

Project Name: Electric Vehicle Population Data

1. Introduction:

In the realm of sustainable transportation, electric vehicles (EVs) have gained substantial traction. The "Electric Vehicle Population Data - Exploratory Data Analysis" project delves into a comprehensive dataset encompassing diverse aspects of electric vehicles. This analysis strives to unearth profound insights, illuminate trends, and fathom the distinct attributes characterizing the electric vehicle landscape.

2. Data Overview:

Within the expansive dataset containing 138,779 records and spanning 17 columns, the richness of electric vehicle information unfolds. Despite its richness, certain columns, including "County," "Model," "Legislative District," "Vehicle Location," and "Electric Utility," present missing values, necessitating adept handling during the data preprocessing phase.

3. Data Preprocessing:

The prelude to the exploratory journey entails meticulous data preprocessing. This pivotal step encompasses tackling missing values and encoding categorical variables, rendering the data primed for the ensuing analysis.

4. Feature Engineering:

In the pursuit of deeper comprehension and heightened model efficacy, feature engineering bestows an avenue for innovation. By crafting novel features derived from existing attributes, the project enhances its capacity to unravel latent insights concealed within the data.

5. Descriptive Statistics:

Delving into the realm of statistics, captivating revelations materialize. The "Electric Range" attribute showcases a sprawling spectrum, spanning from 0 to 337, with an average of approximately 72.3. Analogously, the "Base MSRP" column showcases a panoramic range, boasting an average of approximately 1404.82.

6. Data Visualization:

Visual storytelling comes alive as data takes vibrant forms. This analysis harnesses an arsenal of visualization techniques, encompassing the elegance of bar plots, the granularity of histograms, the depth of box plots, and the correlations unearthed by scatter plots. Through this visual tableau, the intricate interplay of features unfolds, laying bare hidden connections and unfolding narrative threads.

7. Conclusion:

The voyage through the landscape of electric vehicle data culminates in a trove of insights. This exploratory data analysis unfurls the fabric of distribution, deciphers underlying correlations, and unearths elusive patterns. The tapestry of visualizations serves as a panoramic vista, guiding informed decisions and beckoning the prospect of further analysis and model building.