



# CARS DATA ANALYSIS DASHBOARD

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# DATA ANALYTICS



**1** What is a Data Analytics ?

**2** Process Of Analyzing Data.

**3** Project Summary .

# DATA ANALYTICS

Data analytics involves extracting insights and patterns from large datasets to aid decision-making. It encompasses various techniques such as statistical analysis, machine learning, and data mining to uncover valuable information. Examples include analyzing customer purchase behavior to improve marketing strategies, predicting equipment failures to optimize maintenance schedules, and identifying trends in financial data for investment decisions. Commonly used software includes:

- **Microsoft Power BI:** Interactive data visualization.
- **Tableau:** Creating interactive and shareable dashboards.
- **Python:** Libraries like Pandas, NumPy, and scikit-learn for data analysis and machine learning.
- **R:** Statistical computing and graphics.
- **Google Analytics:** web traffic analysis.

# TOOLS FOR ANALYTICS

## Python

Python is a versatile programming language widely used for data analysis and machine learning tasks. Libraries like Pandas provide powerful tools for data manipulation and analysis, allowing users to handle large datasets efficiently.

## Microsoft Power BI

This tool is known for its robust capabilities in interactive data visualization. It allows users to connect to various data sources, transform raw data into meaningful insights, and create visually appealing reports and dashboards.

## Tableau

Tableau is renowned for its prowess in creating interactive and shareable dashboards. It empowers users to connect to multiple data sources, blend data from different sources seamlessly, and create dynamic visualizations with ease.

## R - Programming

R is a programming language and environment specifically designed for statistical computing and graphics. It offers a wide range of statistical and graphical techniques for analyzing data and generating visualizations.

## Google Analytics

Google Analytics is a web analytics service offered by Google that provides valuable insights into website traffic and user behavior. It tracks and reports website traffic metrics such as number of visitors, page views, bounce rate, and conversion rate.



**PYTHON**



**POWER BI**



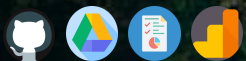
**Tableau**



**R - Programming**



**Google Analytics**



## Python Basics

Python is a versatile programming language known for its simplicity and readability. It offers a wide range of functionalities, making it suitable for various applications, including data analysis, web development, and automation.

## Pandas

Pandas is a powerful Python library for data manipulation and analysis. It provides easy-to-use data structures, such as DataFrames and Series, along with a vast array of functions for tasks like filtering, sorting, and summarizing data. Pandas excels at handling tabular data.

## Matplotlib

Matplotlib is a popular Python library for creating static, interactive, and publication-quality visualizations. It offers a wide range of plotting functions to generate plots such as line plots, bar plots, scatter plots, histograms, and more. allowing users to customize colors, labels, annotations, and styles to effectively communicate insights from data.

## Seaborn

Seaborn is a statistical data visualization library built on top of Matplotlib. Seaborn seamlessly integrates with Pandas DataFrames and offers features like automatic estimation and plotting of statistical models, categorical data visualization, and sophisticated color palettes. It is particularly useful for exploratory data analysis and generating publication-quality visualizations with minimal code.





## Power BI

Power BI is a business analytics tool by Microsoft that allows users to visualize and share insights from their data through interactive dashboards and reports, enabling data-driven decision-making across organizations.

## Bar Graph

A bar graph is a visual representation of data using rectangular bars of varying heights to depict the frequency, distribution, or comparison of categorical or numerical variables, making it easy to understand and interpret data at a glance.

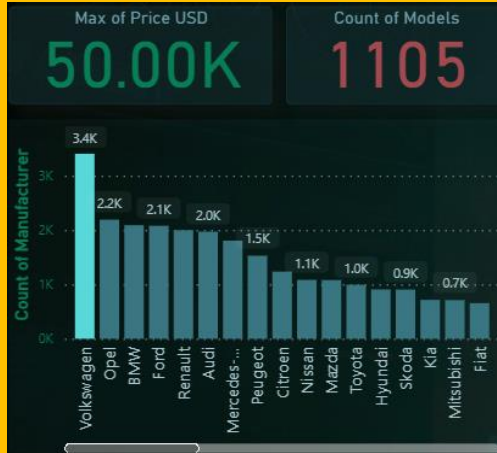
## Area Plot

An area plot, also known as a filled line plot, displays data over time or categories by filling the area under the curve, providing a visual representation of cumulative values or trends, often used to illustrate changes in quantities or proportions over time or across categories.

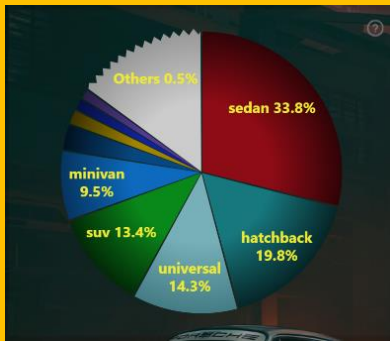
## Animated Graphs

Animated graphs are dynamic visualizations that show changes in data over time or other dimensions through animation, enhancing understanding by revealing trends, patterns, and relationships that may not be apparent in static visualizations, making complex data more accessible and engaging.

# THE DASHBOARD

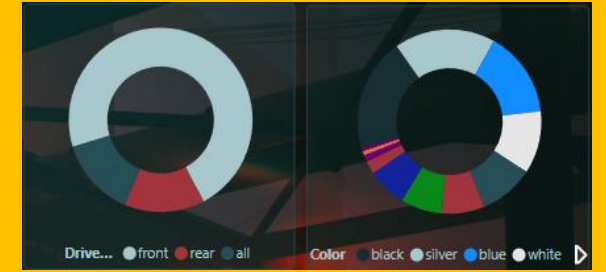
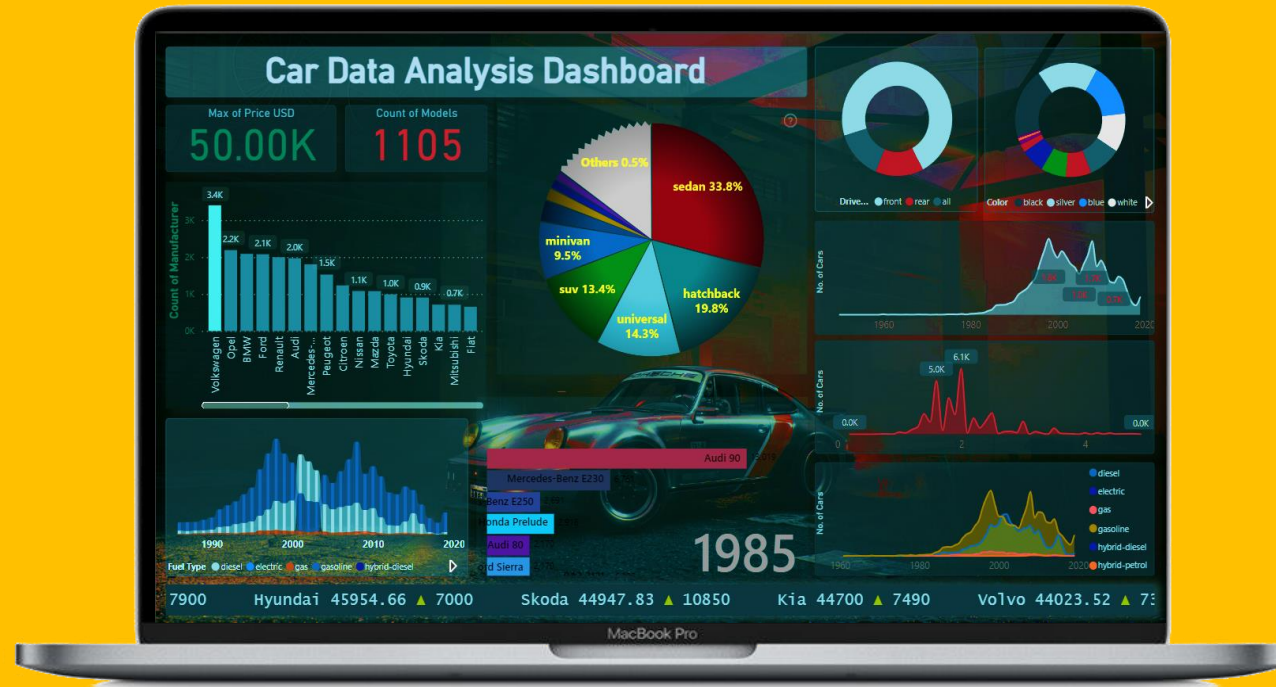


BAR GRAPH

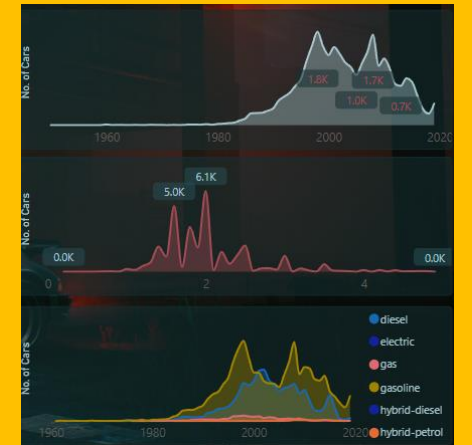


PIE CHART

VIEW DASHBOARD



DOUGHNUT CHART



AREA PLOT





# PROJECT OVERVIEW

**Top Seller Brand**  
**VOLKSWAGAN** is the top selling brand with around. 42 top Selling models

**Count of Models**  
**1105** is the Count of car models available to buy in USA till 2019.



**Most Popular Car**  
**BMW 520s** Is the most popular car of 2019 .

**Preferred Fuel Type**  
**Gasoline** is the most preferred fuel with over 965 Models Supporting Gasoline Engines.

**Most Expensive Car**  
**\$50,000** was the price of the most expensive commercial model available to general public.

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# DEPLOYING

I've deployed this project on GitHub for version control and collaboration, ensuring transparency and accessibility to the source code. The source files are hosted on Google Drive, providing a centralized location for data storage and sharing. The interactive dashboard, created using Power BI, is accessible for dynamic data visualization and exploration. Additionally, the comprehensive report is available for download online, offering detailed insights and analysis derived from the project's findings. This setup ensures efficient management, accessibility, and dissemination of project resources for stakeholders and collaborators.



**GITHUB**



**DRIVE**



**REPORT**



**DASHBOARD**

# CONCLUSION

In conclusion, our presentation highlights the pivotal role of data analytics in revolutionizing car data analysis. Through meticulous examination of diverse datasets, we've uncovered profound insights applicable across the automotive industry, from predictive maintenance to market demand forecasting. Demonstrating the power of tools like Microsoft Power BI, Tableau, Python, R, and Google Analytics, we've showcased how businesses can derive actionable insights to enhance efficiency and gain a competitive edge.

Our deployment strategy, utilizing GitHub for version control, Google Drive for source file storage, and Power BI for interactive dashboards, ensures accessibility and transparency among stakeholders. As we embrace data-driven approaches, these findings serve as a foundation for continuous innovation and strategic decision-making in the automotive landscape. By leveraging data analytics, we position ourselves to navigate challenges and seize opportunities, propelling the industry forward with confidence and foresight.



# THANK YOU !

