

Data Analyst Long-term Internship Project

Team Details :-

Team Leader - M. Pratibha

Team Member - G. Kavya

Team Member - S. Sameerulla

Team Member - G. Vamsi

Project Title :-

Visualization Tool For Electric Vehicle
charge And Range Analysis.

Introduction :-

The Electric Vehicle (EV) is not new, but it has been receiving significantly more attention in recent years. Advances in both EV analysis and battery technologies have led to increased automotive market share. However, this growth is not attributed to hardware alone. The modern mechatronic vehicle marries electrical storage and propulsion systems with electronic sensors, controls and actuators, integrated closely with software, secure data transfer and data analysis, to form a comprehensive transportation solution. Advances in all these areas have contributed to the overall rise of EV's, but the common thread that runs through

these elements is data analysis.

→ Overview :-

India is a country with the third largest road network in the world. Electrification of passenger vehicles is ever more certain following the launch of many more EV offerings from vehicle manufacturers, legislation to curb Internal combustion Engine (ICE) powered vehicles and municipal concerns over air quality. Policy makers, technologists, energy regulators, vehicle and EV infrastructure industries are increasingly concerning themselves with enhancing enablers and removing barriers to EV adoption. This recognition and call to action is playing out to differing degrees worldwide and by being proactive, the UK has the potential to build on its position as the third largest vehicle producer in Europe and expand its vehicles offering and supporting arrangements.

→ Purpose :-

Against this background, in January 2018, a cross Catapult working group drawn from Future Cities, Transport Systems, High Value Manufacturing and Energy Systems Catapult consulted with a broad range of stakeholders that

that were affected directly by or could be
or could seize opportunities presented by the
mass adoption of EVs.

Several years ago, the number of highway-capable EV options was limited, but the variety of makes and models on the market is now quickly increasing. There are currently in excess of 40 highway-capable fully-EV models on the market and many more due for release in the coming year. In addition to passenger cars, Hackney Carriages & Vans and buses are now on the market too and in operation in several cities. Electric heavy goods vehicles are towards the latter stages of development and are starting to be offered for commercial release. By 2025 it is expected that most type of ICE vehicle will have an EV equivalent available.

Problem Statement :-

Analysing different data from Multiple Sources for Electric cars in India and Globally. We have to need to analyse the data and create Dashboard and story that can be represent the data and show the visuals for the data.

Pre Requisites :-

For Completing this project these are some of the prerequisites needed.

- A system with a minimum 4GB RAM and 128 GB Hard Disk.
- Good Internet Connection.
- Google Drive / Any of the Database Server with Management studio.
- MySQL.
- Tableau Public
- Account : <https://public.tableau.com/app/discover>
- HTML
- CSS (or) Bootstrap.

Data :-

Data contains all the meta information regarding the columns described in the CSV files. We have provided 4 CSV files :-

1. EV India
2. Electric_vehicle_charging_station_list
3. ElectricCarData_clean
4. Cheapestelectriccars - EVDatabase

→ Column Description for EVIndia :-

- Car - Car Brand name and model
- Style Range - Style range of car
- Transmission - Transmission type
- Vehicle Type - Type of Vehicle
- Price Range (Lakhs) - Price Range in Lakhs.
- Capacity - Capacity of car.
- Boot space - Boot space of the car.
- Base Model - Base model name
- Top Model - Top model name.

→ Column Description for Electric_vehicle_charging_station_list :-

- region : region of the charging station.
- address : address of the charging station.
- aux address : auxiliary address of the charging station.

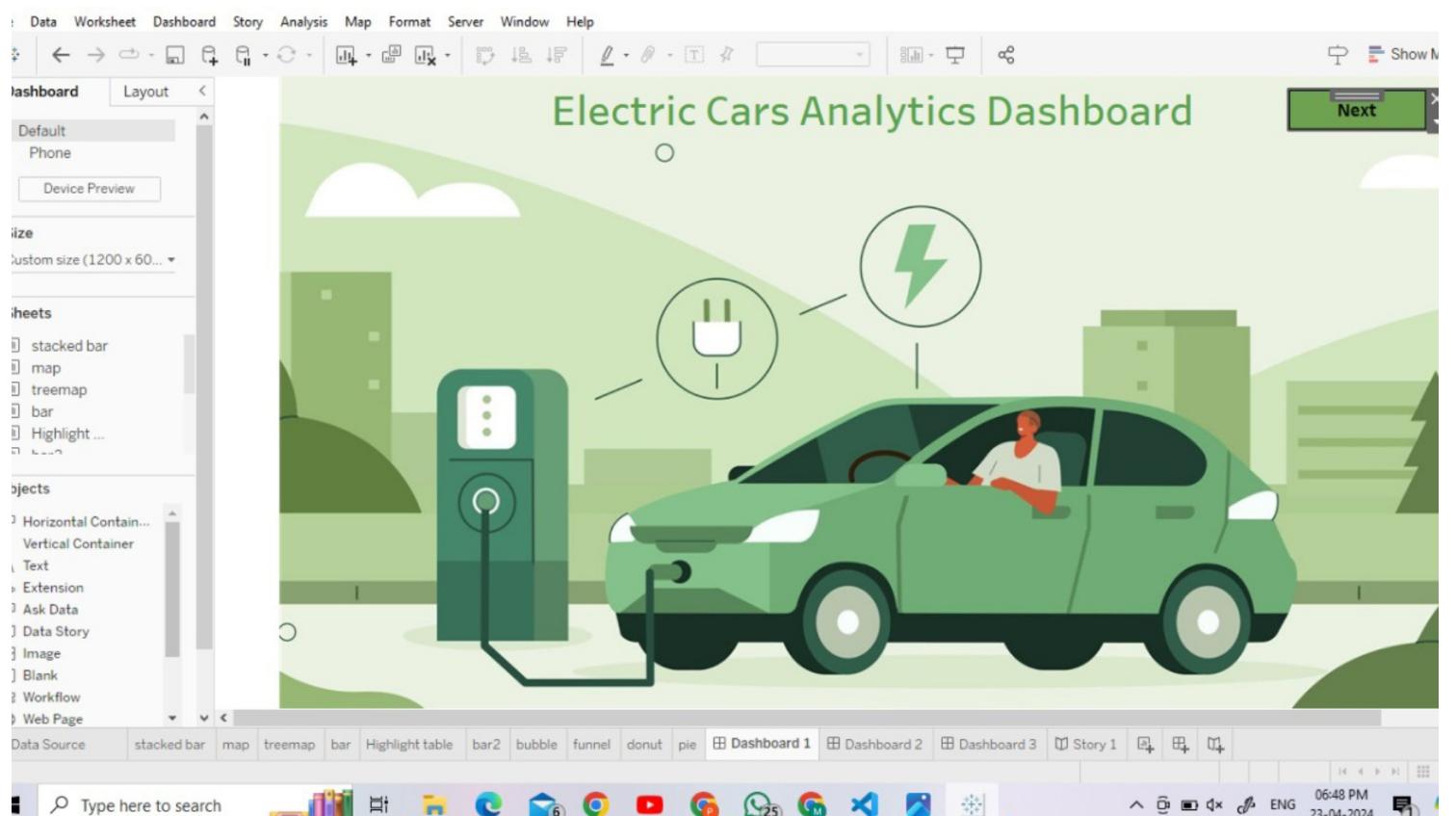
- Latitude : The latitude of the charging station.
- Longitude : The longitude of the charging station.
- type : The type of the charging station.
- Power : The power of charging station.
- Service : The type of service at the charging station.

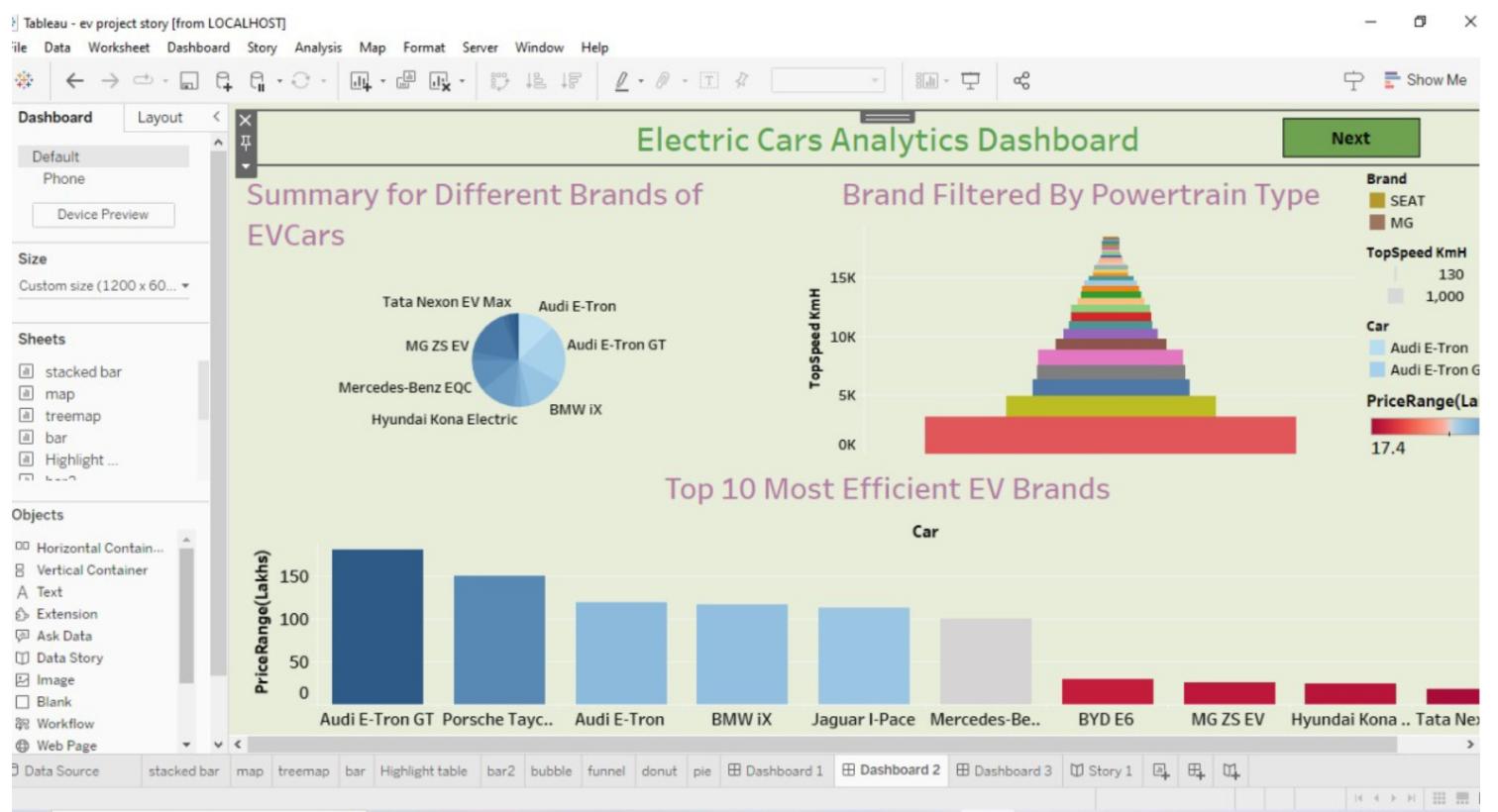
→ Column Description for Electric carData-clean :

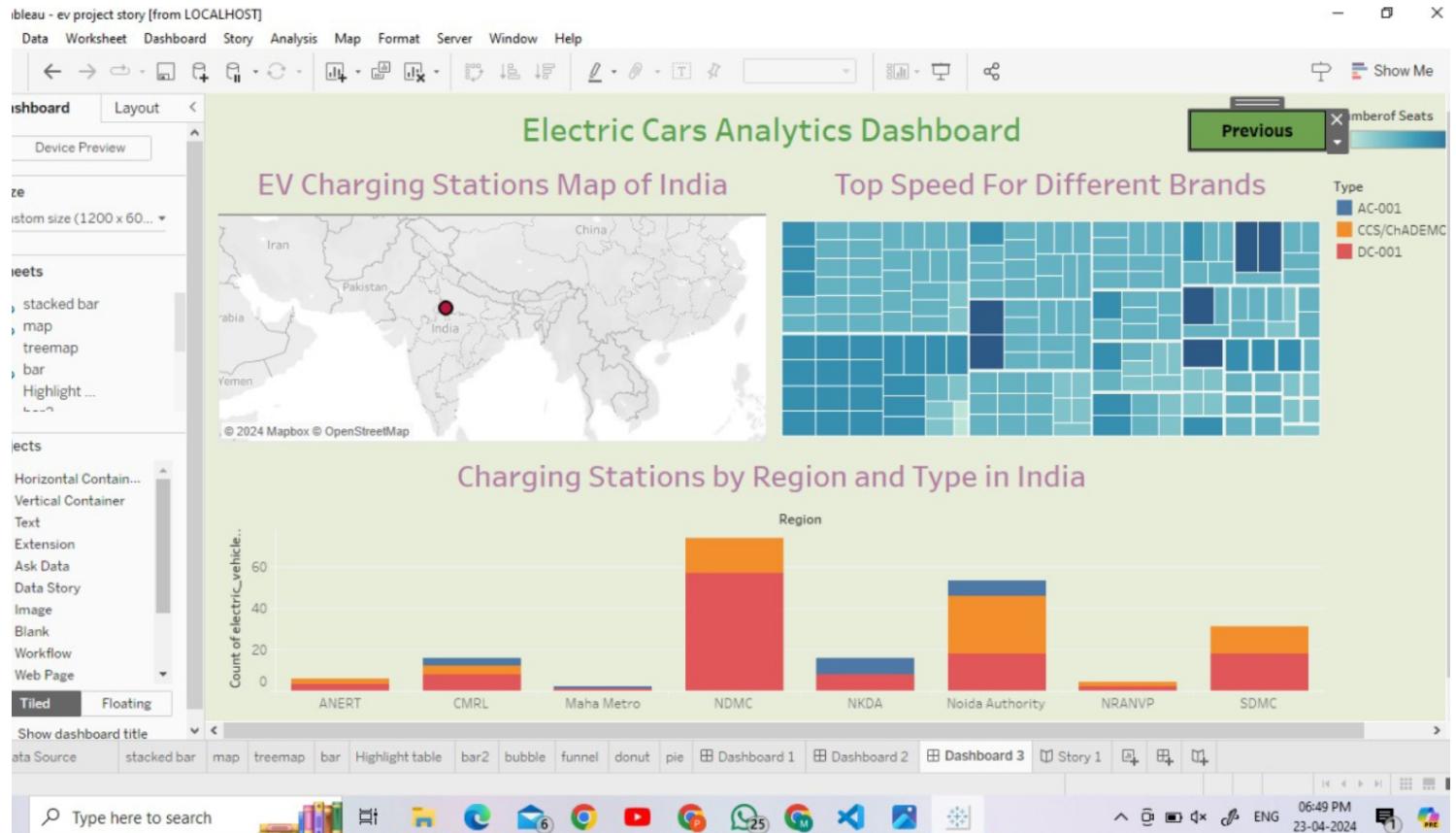
- Brand
- Model
- Accelsec
- Topspeed - KmH
- Range - Km
- Efficiency - kWhkm
- FastCharge - KmH
- RapidCharge
- PowerTrain
- PlugType
- Body style
- Segment
- Seats
- PriceEuro

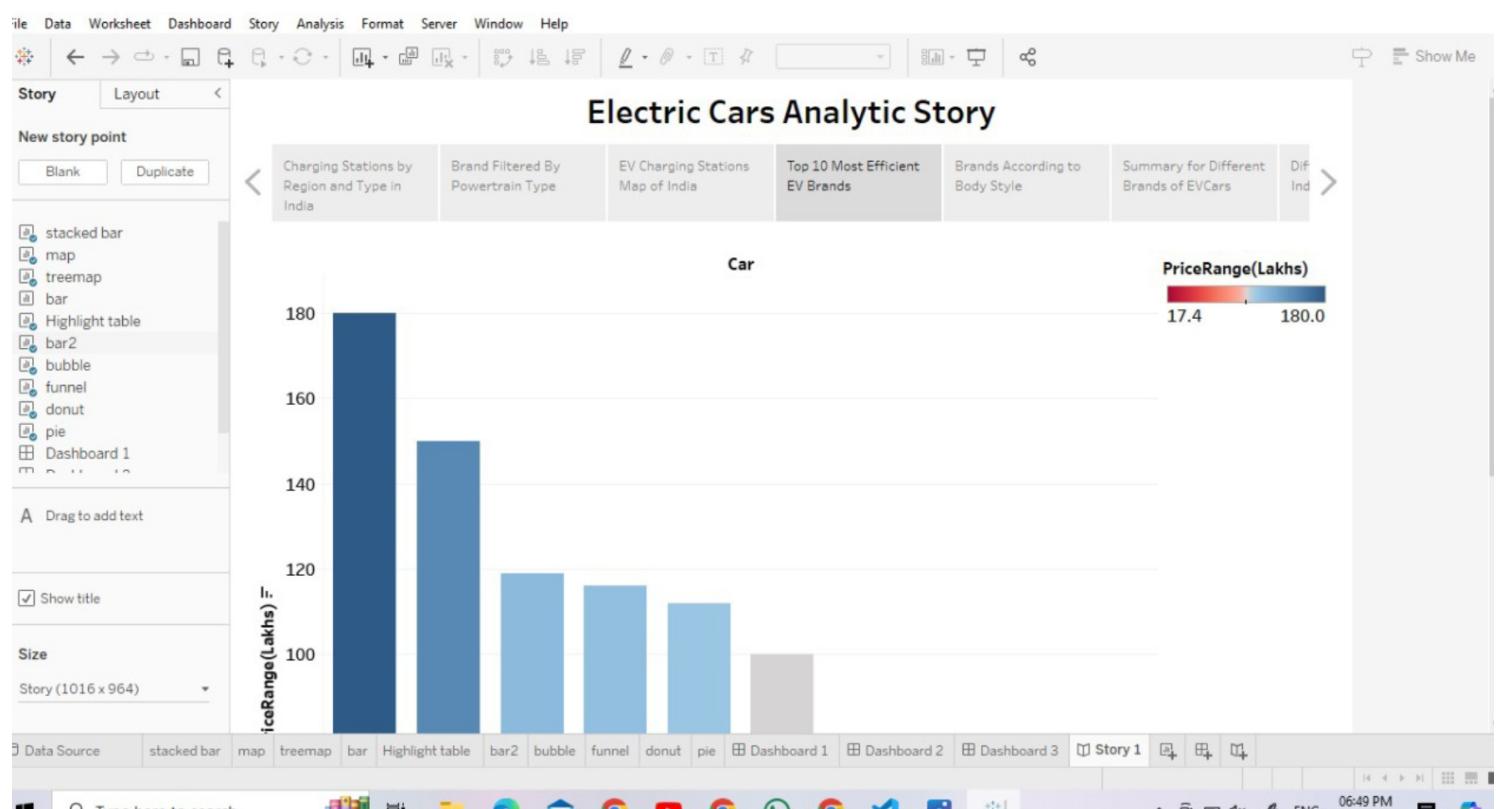
→ Column Description for
Cheapestelectriccars - EVDatabase :-

- Name
- Subtitle
- Acceleration
- Topspeed
- Range
- Efficiency
- Fast Charge Speed
- Drive
- Number of Seats
- Price in Germany
- Price in UK









Profile - prathiba.muddulur | T X Smartinternz X electric vehicle car charging im X Prathibamuddulur / March 2023 X +

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Prathiba Muddulur

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Electric Cars Analytic Story

A bar chart titled "Electric Vehicles Statistics" comparing different vehicle types. The Y-axis represents the number of vehicles, ranging from 0 to 100. The X-axis lists vehicle types: Electric Vehicles, Hybrid Vehicles, Non-Electric Vehicles, Plug-in Hybrid Vehicles, and Battery Electric Vehicles. The bars show the following approximate values: Electric Vehicles (~85), Hybrid Vehicles (~10), Non-Electric Vehicles (~5), Plug-in Hybrid Vehicles (~2), and Battery Electric Vehicles (~1).

ev project story
Prathiba Muddulur

Electric Cars Analytics Dashboard

A dashboard titled "Electric Cars Analytics Dashboard" featuring a central image of a green car connected to a charging station. The dashboard includes several interactive elements and charts related to electric vehicle usage.

ev project
Prathiba Muddulur

Airplane Crash Analysis

A dashboard titled "Airplane Crash Analysis" showing a world map of accident locations. It includes a legend for regions and several charts analyzing accident data by operator, location, and flight history.

Data Analytics Project Story
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Airplane Crash Analysis

A second dashboard titled "Airplane Crash Analysis" with similar content to the first, showing maps and charts of accident locations and operator statistics.

Data Analytics Project
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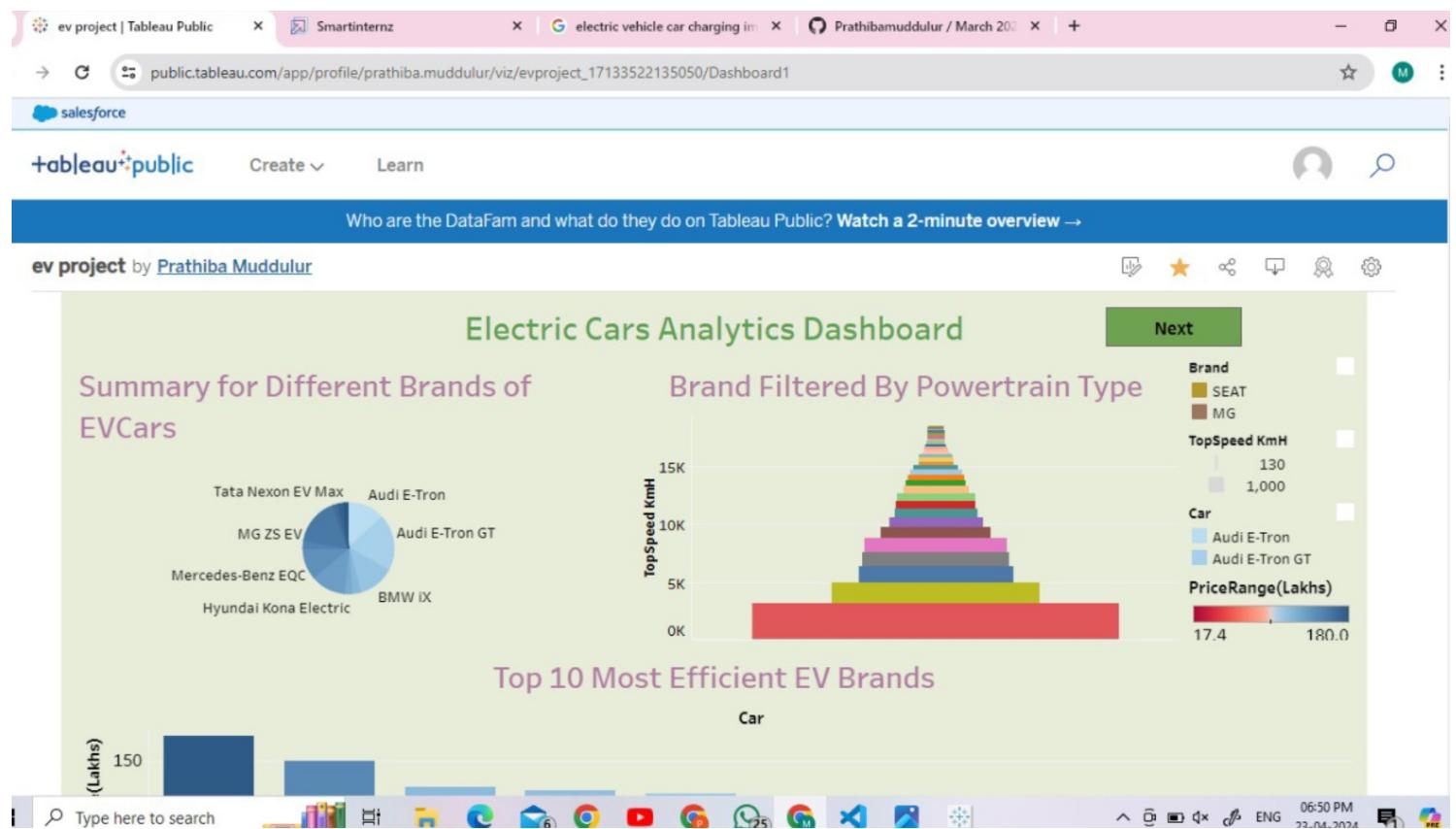
Who are the DataFam and what do they do on Tableau Public? Watch a 2-minute overview →

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Electric Cars Analytics Dashboard

Next

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Electric Cars Analytics Dashboard

EV Charging Stations Map of India

Top Speed For Different Brands

Number of Seats

Previous

Type

- AC-001
- CCS/CHADEMO/ Type ...
- DC-001

Charging Stations by Region and Type in India

Type

- AC-001
- CCS/CHADEMO/ Type ...
- DC-001

Region

60

40

20

0

electric vehicle car charging im

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Electric Cars Analytic Story

Charging Stations by Region and Type in India Brand Filtered By Powertrain Type EV Charging Stations Map of India Top 10 Most Efficient EV Brands Brands According to Body Style Summary for Different Brands of EVCars Dif Inc >

Running Sum of Count of ... 202

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The screenshot shows a code editor interface with the following details:

- EXPLORER** sidebar:
 - OPEN EDITORS**: project 1.html
 - BOOTSTRAP0**:
 - Vesperr
 - static
 - img
 - 444.jpg
 - dddimage.jpg
 - imagek.jpg
 - kavya 2.jpg
 - kavya.jpg
 - prathiba.jpg
 - prathiba2.jpg
 - sameerulla 3.jpg
 - sameerulla.jpg
 - ssssimage.jpg
 - vamsi.jpg
 - vamsi2.jpg
 - vvvimage.jpg
 - js
 - vendor
 - templates
 - index.html
 - inner-page.html
 - portfolio-details.html
 - project 1.html
 - flaskcodep.py
- TERMINAL** tab:

```
PS C:\Users\PRATHIBHA\Desktop\bootstrap0> & C:/Users/PRATHIBHA/AppData/Local/Programs/Python/Python311/python.exe c:/Users/PRATHIBHA/Desktop/bootstrap0/Vesperr/flaskcodep.py
* Serving Flask app 'flaskcodep'
* Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on http://127.0.0.1:5000
Press CTRL+C to quit
* Restarting with stat
* Debugger is active!
* Debugger PIN: 344-696-033
127.0.0.1 - - [23/Apr/2024 16:11:57] "GET / HTTP/1.1" 200 -
```
- Bottom status bar: Ln 294, Col 27 Spaces: 2 UTF-8 CRLF HTML

The screenshot shows a Microsoft Visual Studio Code (VS Code) interface. The left sidebar contains the Explorer, showing a file tree with a folder named 'BOOTSTRAP' containing 'Vesperr', 'static', and 'img' subfolders, each with several image files. Below these are 'js', 'vendor', 'templates', and other files like 'index.html'. The 'flaskcodep.py' file is selected in the Explorer and is open in the main editor area. The code is a simple Flask application:

```
from flask import Flask, render_template
app = Flask(__name__)
@app.route('/')
def hello_world():
    return render_template('project 1.html')
if __name__ == '__main__':
    app.run(debug=True)
```

The terminal tab at the bottom shows the output of running the application:

```
PS C:\Users\PRATHIBHA\Desktop\bootstrap0 & C:/Users/PRATHIBHA/AppData/Local/Programs/Python/Python311/python.exe c:/Users/PRATHIBHA/Desktop/bootstrap0/Vesperr/flaskcodep.py
* Serving Flask app 'flaskcodep'
* Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on http://127.0.0.1:5000
Press CTRL+C to quit
* Restarting with stat
* Debugger is active!
* Debugger PIN: 344-696-033
127.0.0.1 - - [23/Apr/2024 16:11:57] "GET / HTTP/1.1" 200 -
```

The status bar at the bottom right indicates the code is in Python 3.11.0 64-bit environment.

B Electric Vehicle Charge And Range X B Electric Vehicle Charge And Range X +

127.0.0.1:5000

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Data Analyst Home About Dashboard & Story Team Drop Down Contact Get Started

We Offer Modern Analytics Solution For Electric Vehicles

Get Started



127.0.0.1:5000/#hero

ABOUT PROJECT

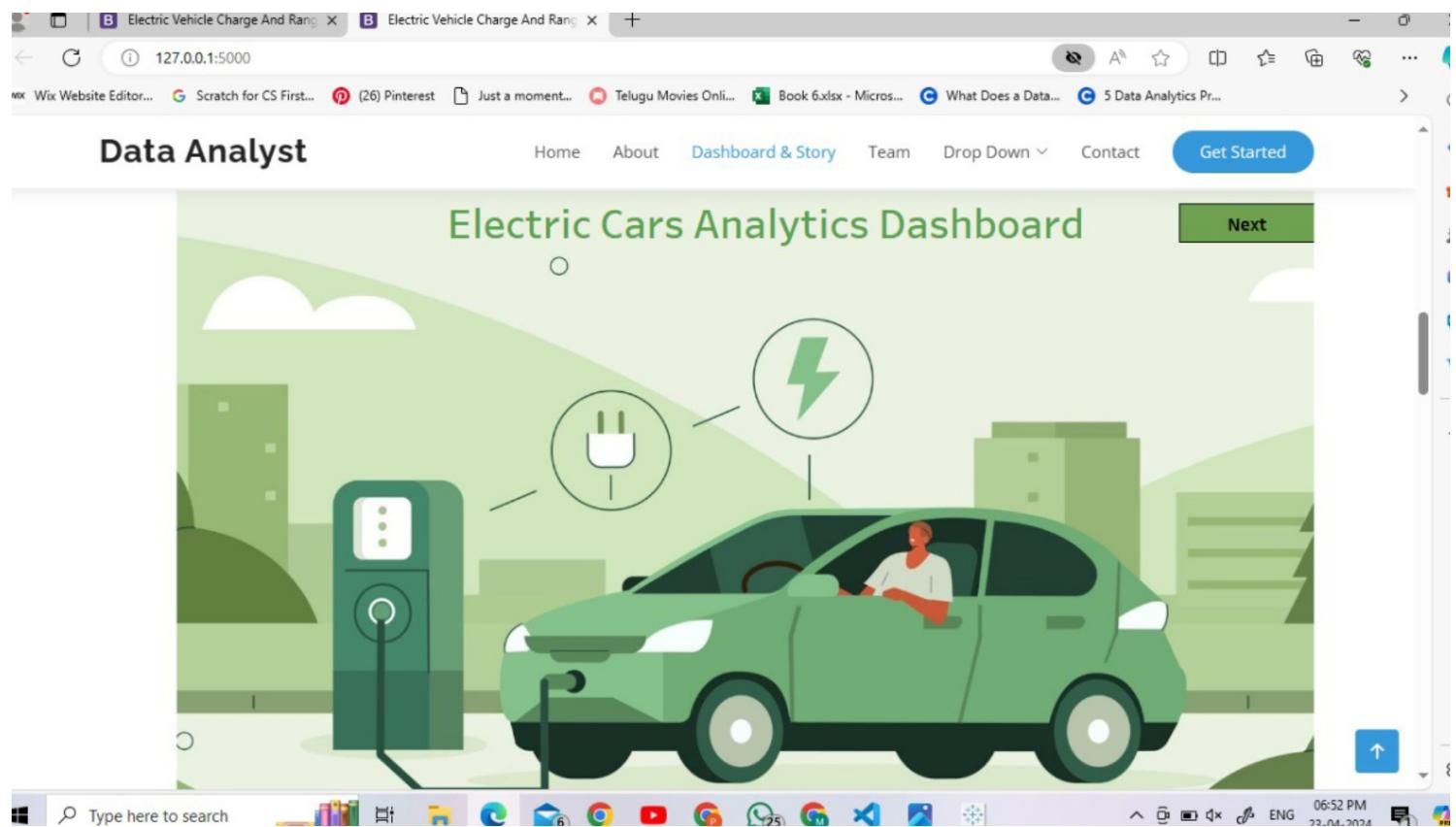
The screenshot shows a web browser window with the URL 127.0.0.1:5000 in the address bar. The page title is "Data Analyst". The navigation menu includes Home, About, Dashboard & Story, Team, Drop Down ▾, Contact, and a prominent blue "Get Started" button. Below the menu, a section titled "ABOUT PROJECT" is displayed. The left side of the section contains text about the rise of Electric Vehicles (EVs) and their integration of data analytics. The right side contains text about electric mobility and its growth. A "Learn More" button is located between the two text blocks. At the bottom of the browser window, there is a toolbar with various icons and a status bar showing the time as 06:51 PM.

The Electric Vehicle (EV) is not new, but it has been receiving significantly more attention in recent years. Advances in both EV analytics and battery technologies have led to increased automotive market share. However, this growth is not attributed to hardware alone. The modern mechatronic vehicle marries electrical storage and propulsion systems with electronic sensors, controls, and actuators, integrated closely with software, secure data transfer, and data analysis, to form a comprehensive transportation solution. Advances in all these areas have contributed to the overall rise of EVs, but the common thread that runs through all these elements is data analytics.

EV charging is one of the reasons you should get an electric car.

More cost savings, a superior performance, and a smaller carbon footprint.

The maximum power an EV can accept differs from vehicle to vehicle and can even vary depending on the model of the car.



A screenshot of a web browser showing a team page for a Data Analyst project. The page has a header with the title "Data Analyst" and a navigation menu with links for Home, About, Dashboard & Story, Team, Drop Down, Contact, and Get Started. Below the header is a section titled "TEAM" featuring four team members with their portraits and names:

- Prathiba Muddulur**
Team Leader
- C. Kavya**
Team Member
- S. Sameerulla**
Team Member
- G. Vamsi**
Team Member

The browser's address bar shows the URL as 127.0.0.1:5000. The taskbar at the bottom of the screen displays various application icons.

Data Analyst

Home About Dashboard & Story Team Drop Down Contact [Get Started](#)

CONTACT US

Data Analyst

The Electric Vehicle (EV) is not new, but it has been receiving significantly more attention in recent years. Advances in both EV analytics and battery technologies have led to increased automotive market share. However, this growth is not attributed to hardware alone. The modern mechatronic vehicle marries electrical storage and propulsion systems with electronic sensors, controls, and actuators, integrated closely with software, secure data transfer, and data analysis, to form a comprehensive transportation solution. Advances in all these areas have contributed to the overall rise of EVs, but the common thread that runs through all these elements is data analytics.

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Andhra Pradesh, India

Students@vidyanikethan.edu

7670813211

Your Name

Your Email

Subject

Message

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