

Sundus Yawar

Budget and Environmentally Friendly Car Recommendation System

Non-Technical Overview & Potential Impact

- Opens doors to making environmentally responsible decision within a tight budget given the increased cost of living
 - environmentally friendly i.e. fuel efficient, low CO2 emissions, best smog rating
 - cost efficient i.e. within budget for purchase & fuel efficiency

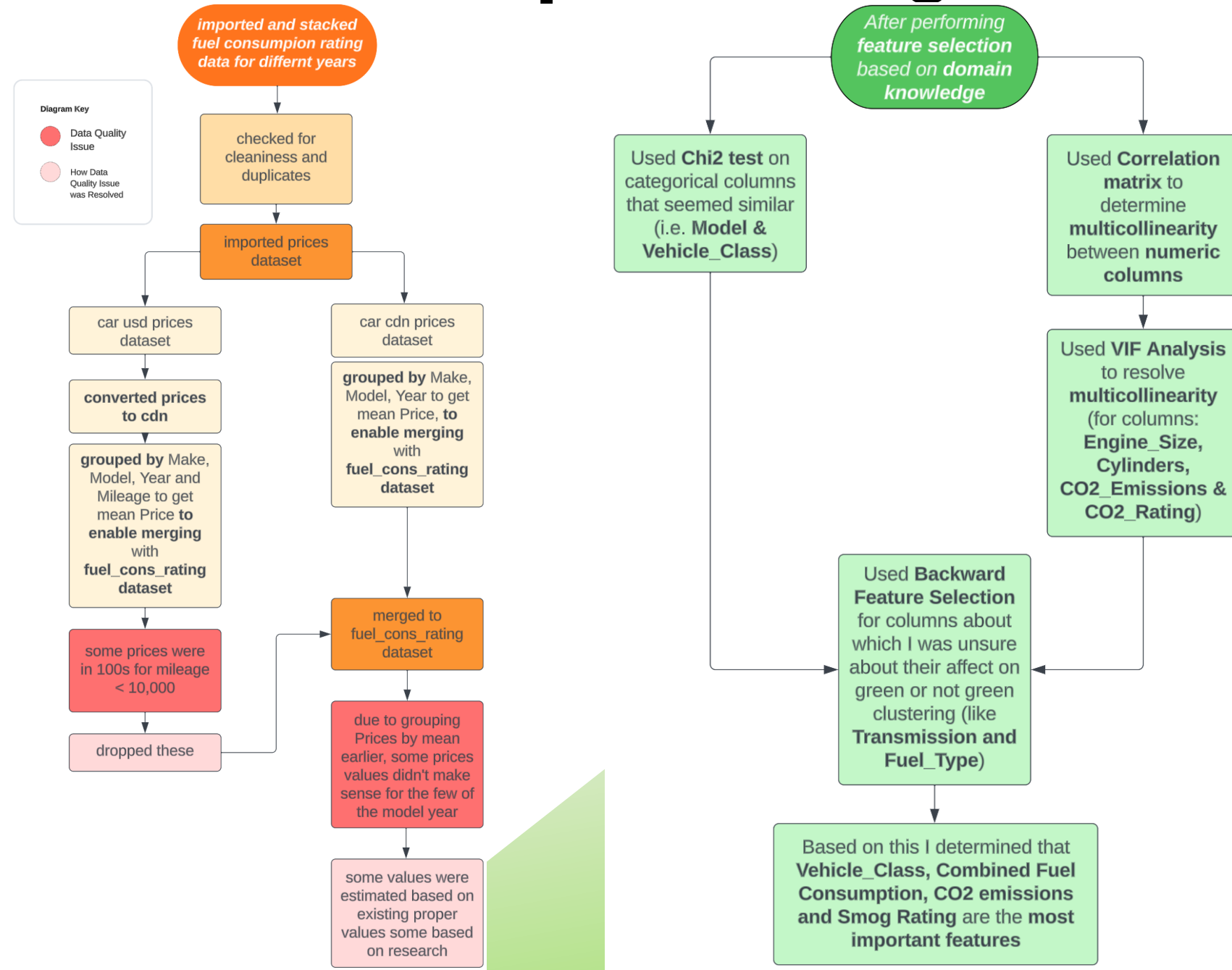


Overview of the Dataset & Preprocessing Procedures

Dataset Originally consisted of 6,951 rows and 15 columns

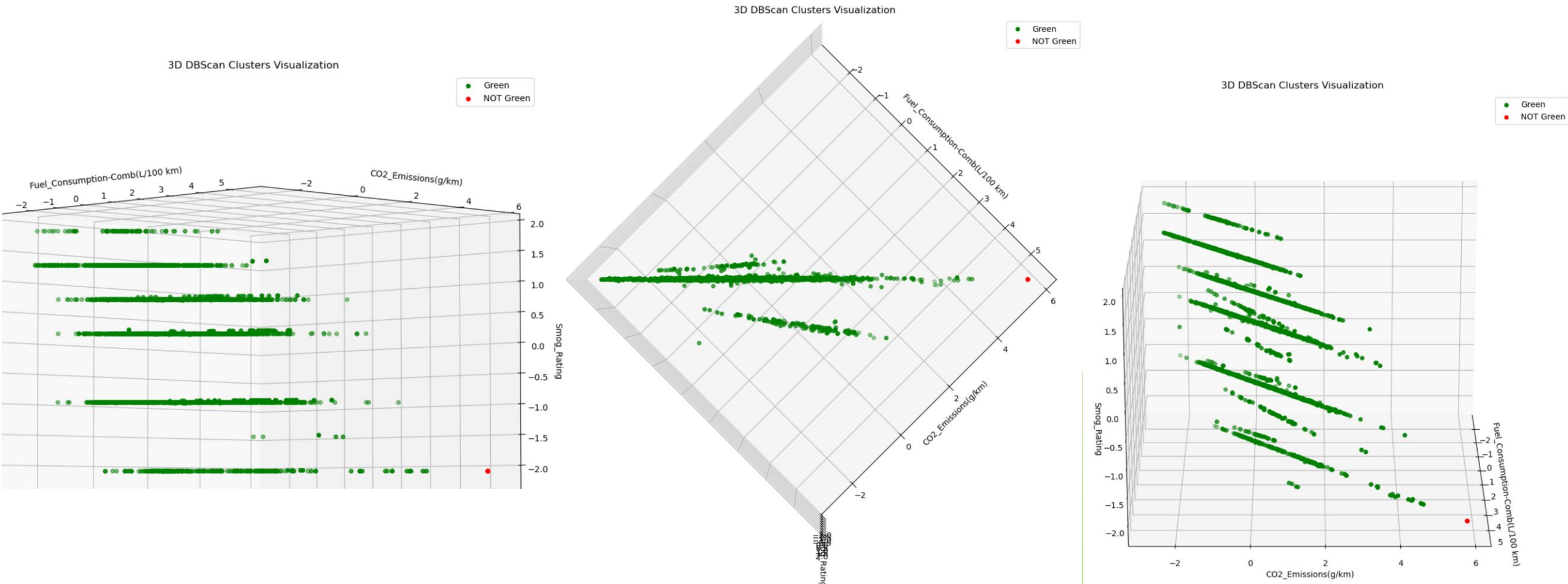
Some of the important features include:

- **Model_Year**
- **Make**
- **Model**
- **Vehicle_Class**
- **Fuel_Type**
- **Fuel_Consumption-Comb(L/100km)**
- **CO2_Emissions**
- **Smog Rating**
 - **scale 1 – 10 where**
 - **1 means worst**
 - **10 means best**



Model Comparison & Interpretations

Cluster labels	Median of Fuel_Consumption_Comb (L/100km)	Median of CO2_Emissions(g/km)	Median of Smog Rating
Green Vehicle	-0.132738 →low	-0.074922 →low	0.139051 →high
NOT Green Vehicle	5.406509 →high	5.800374 →high	-2.09703 →low



Demo

Demo Link: <https://green-vehicle-recommender-system.streamlit.app/>

- Allows users to easily **select fuel based green vehicle** based on their **budget** and **vehicle type** they are interested in.
- The results are **sorted by Combined Fuel Consumption** allowing users to see which of the **green vehicles have better fuel efficiency**

Green Vehicle Recommender System

Please Select Price Range and Vehicle Class for Tailored Recommendation 😊

Price_start

20000

Price_end

30000

Vehicle Type

SUV - SMALL

Legend for Transmission:

A: Automatic		AM: Automated Manual				AS: Automatic with Select Shift				AV: Continuously Variable			M: Manual		3-10: Number of Gears	
	Model_Year	Make	Model	Vehicle_Class	Engine_Size(L)	Cylinders	Transmission	Fuel_Type	Fuel_Consumption-City(L/100 km)		Fuel_Consumption-Hwy(L/100 km)		Fuel_Consumption-Comb(L/100 km)		Average Price(CDN)	
1561	2018	HONDA	CR-V	SUV - SMALL	1.500000	4	AV	Regular gasoline	8.400000		7.000000		7.800000		25951.152400	
704	2017	MAZDA	CX-5	SUV - SMALL	2.000000	4	M6	Regular gasoline	9.400000		7.400000		8.500000		27150.000000	
705	2017	MAZDA	CX-5	SUV - SMALL	2.500000	4	AS6	Regular gasoline	9.800000		7.700000		8.600000		27150.000000	
524	2017	HYUNDAI	TUCSON	SUV - SMALL	2.000000	4	AS6	Regular gasoline	10.100000		7.800000		9.000000		26156.000000	
1601	2018	HYUNDAI	TUCSON	SUV - SMALL	2.000000	4	AS6	Regular gasoline	10.100000		7.800000		9.000000		28156.000000	
523	2017	HYUNDAI	TUCSON	SUV - SMALL	1.600000	4	AM7	Regular gasoline	9.900000		8.500000		9.300000		26156.000000	
3181	2019	VOLKSWAGEN	TIGUAN	SUV - SMALL	2.000000	4	AS8	Regular gasoline	10.700000		8.000000		9.500000		24900.000000	
1645	2018	JEEP	CHEROKEE	SUV - SMALL	3.200000	6	A9	Regular gasoline	11.400000		8.300000		10.000000		25750.000000	

Thank You!

