



Fuel Consumption

Judsica, Tran, Makram, Srinivas





**Which car brand is
the least harmful to
our environment?**

Further questions to analyze...

01

Which country manufactures the car brands that pollute our air the most?

02

Which Brand is the healthiest to our environment?

03

Is our hypothesis correct?

04

To look at the emission control between all countries.

Resources used

1st



Dealership and
manufactures from
github

2nd



Fuel consumption
dataset from Kaggle

3rd



GeoAPI file

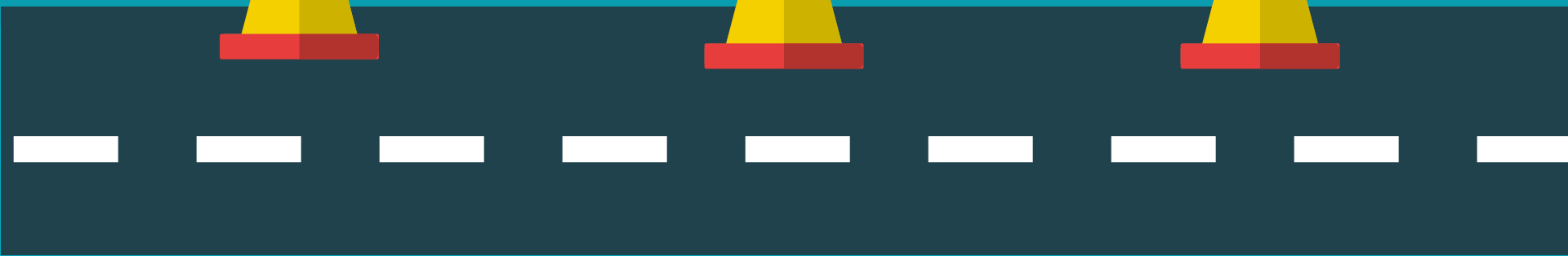
Methods used

**Cleaning
data**

**Plot and
Visualization**

**Statistical
testing**

Conclusions



Countries to be focused on



Hypothesis and null hypothesis

Null Hypothesis:

1. There is no correlation in regards to Engine size and the emission.

Hypothesis:

The larger the Engine size results in more emission and gas produced.





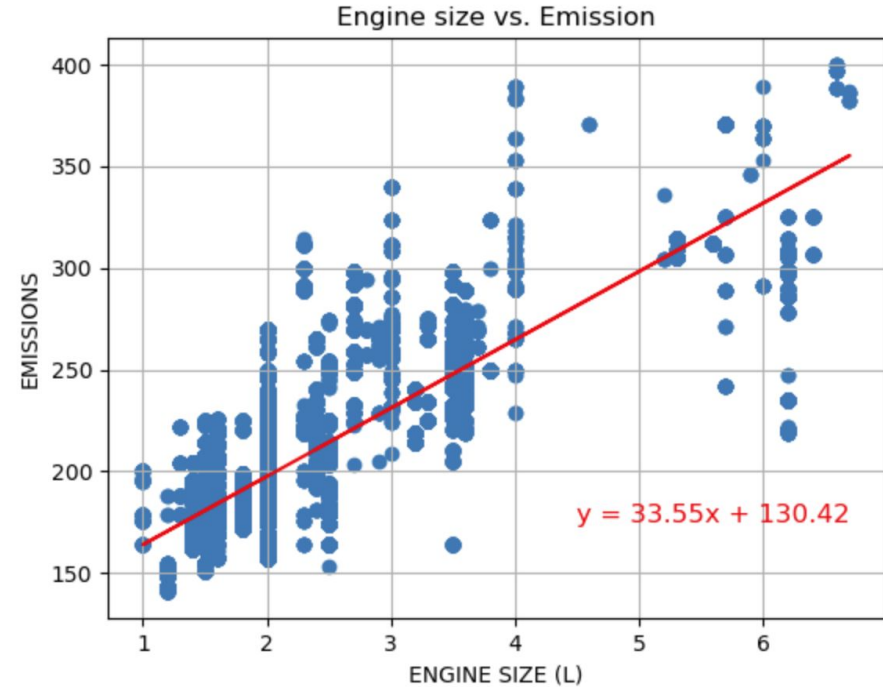
Regression Analysis

Using Anova a p-value of 4.76 was calculated. According to the r value calculated there is a 78% that depends on the emission variable and the engine size is an independent variable. The larger the engine size the more fuel is used for a larger emission production. Therefore we reject the null hypothesis.



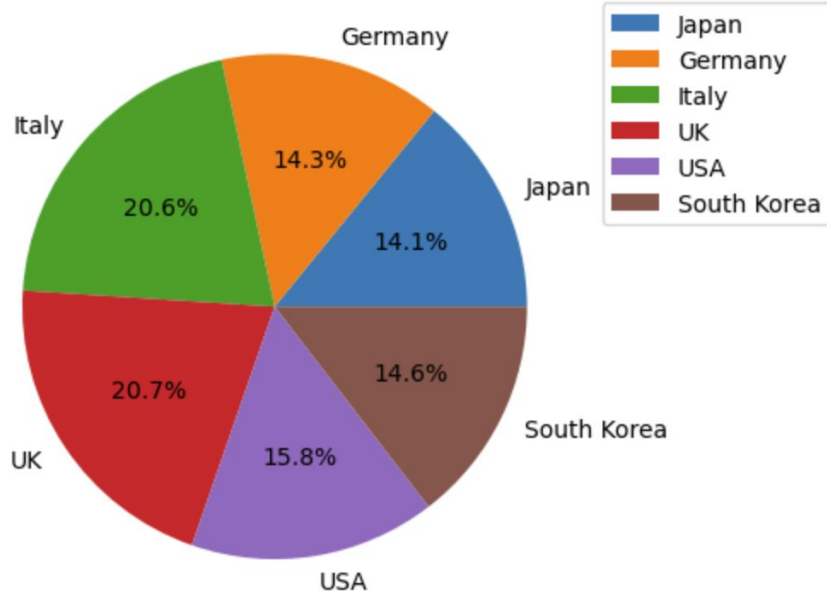
The r-square is 0.782646091967873

$$y = 33.55x + 130.42$$



Which Country Produced the highest emission rate?

Emissions Level by Country



What body types of cars are most produced by all countries?

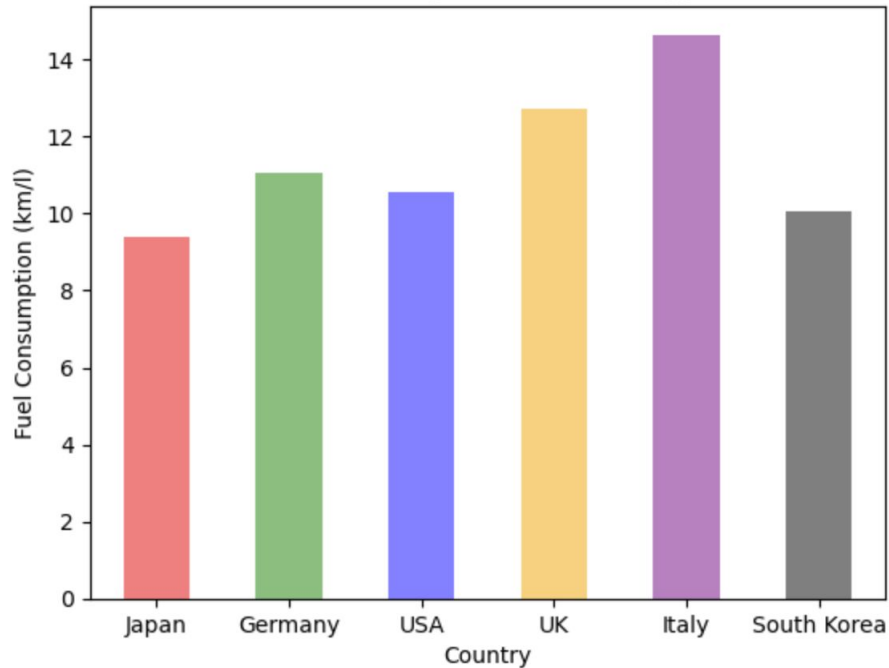
SUV	47356
Sedan	39976
Hatchback	16871
Pickup	7936
Coupe	1651
Wagon	1511
Minivan	1225
Convertible	328
Targa	302
Crossover	41
Cargo Van	17

The fuel consumption based on the two most produced car brands

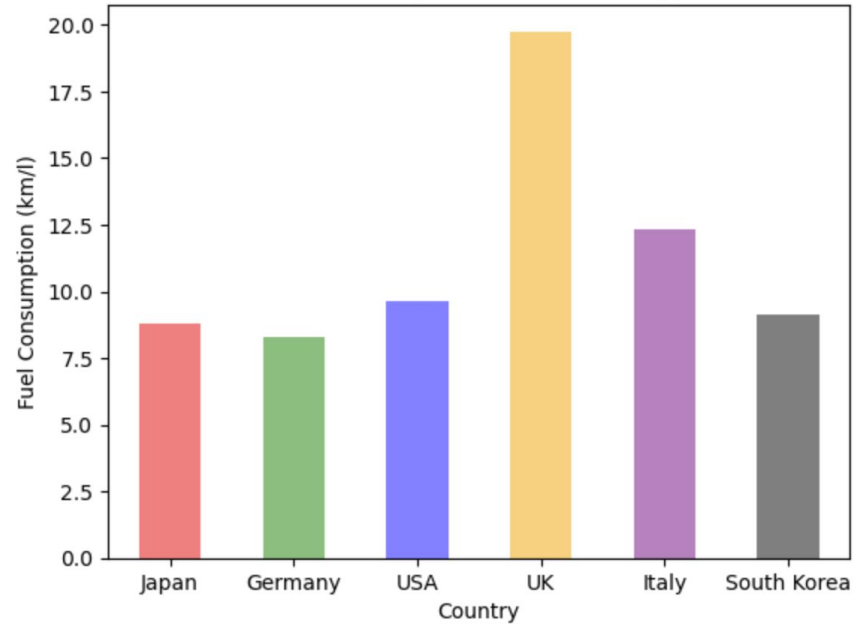
	Country	SUV Fuel Consumption	Sedan Fuel Consumption
0	Japan	9.411280	8.767896
1	Germany	11.050280	8.297013
2	USA	10.552274	9.642283
3	UK	12.725157	19.752941
4	Italy	14.645588	12.327500
5	South Korea	10.064256	9.158132

What is the relation?

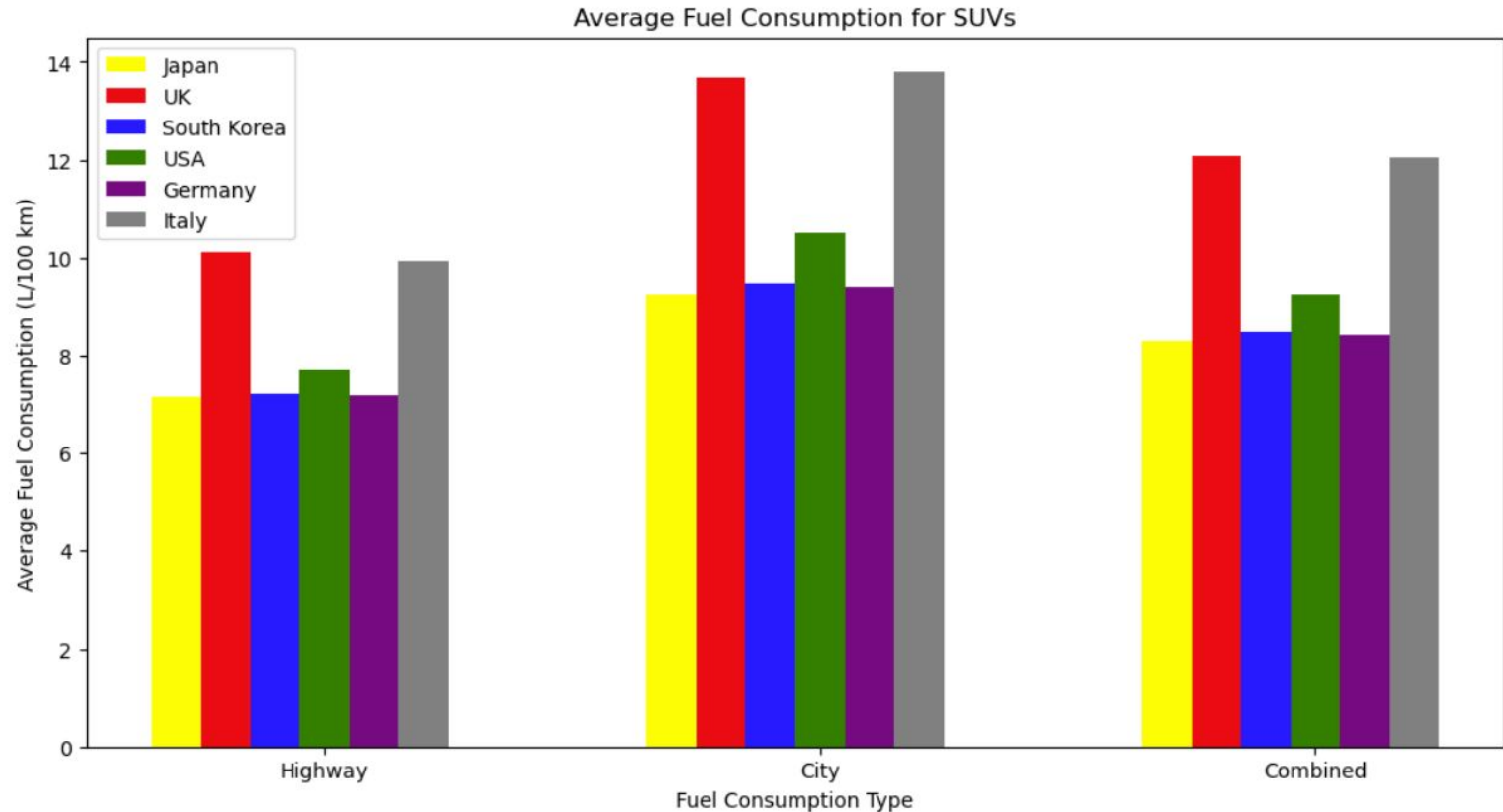
Fuel Consumption in SUV car type



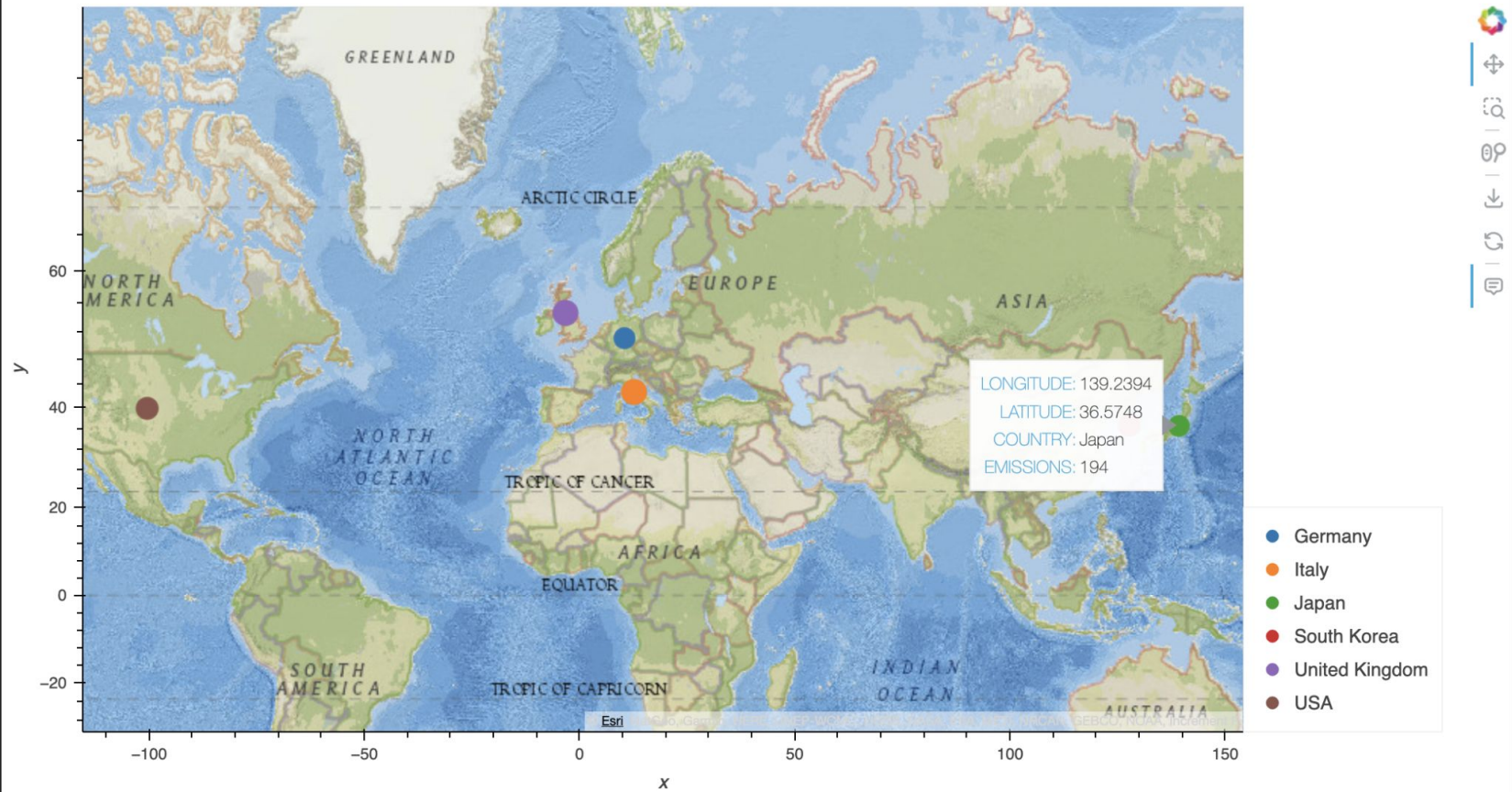
Fuel Consumption in Sedan car type



Looking at the emissions by brand and year



Average emission of all cars in each country



Limitations of our data set:

Not all cars
present

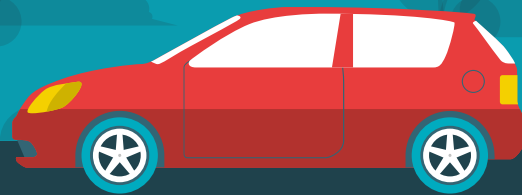
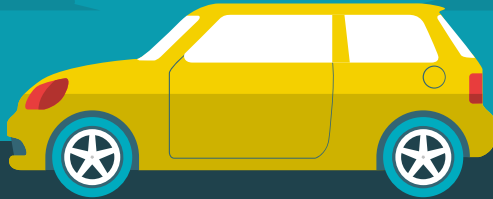
Looking at second
hand cars

Only looked through
the last 5 years



Conclusions

1. Looking at all 6 countries, overall the cars produced in Italy have the largest Emission levels.
2. SUVs and Sedans were the most popularly bought and made car brand.
3. Most polluting car is a Rolls Royce.
4. Lowest emission cars: Mitsubishi Mirage(Hatchback), Mitsubishi Mirage G4(Sedan), Nissan Kicks(SUV).





Thank you!

Any questions?

