



Data Glacier

Your Deep Learning Partner

Konioris Aggelos

Data Glacier Project

Virtual Internship LISUM02

G2M insight for Cab Investment firm

- XYZ is a private firm in US. Due to remarkable growth in the Cab Industry in last few years and multiple key players in the market, it is planning for an investment in Cab industry and as per their Go-to-Market (G2M) strategy they want to understand the market before taking final decision.
- XYZ is interested in using your actionable insights to help them identify the right company to make their investment.

Data pre-processing steps

As a first step we merge the four datasets are provided into one



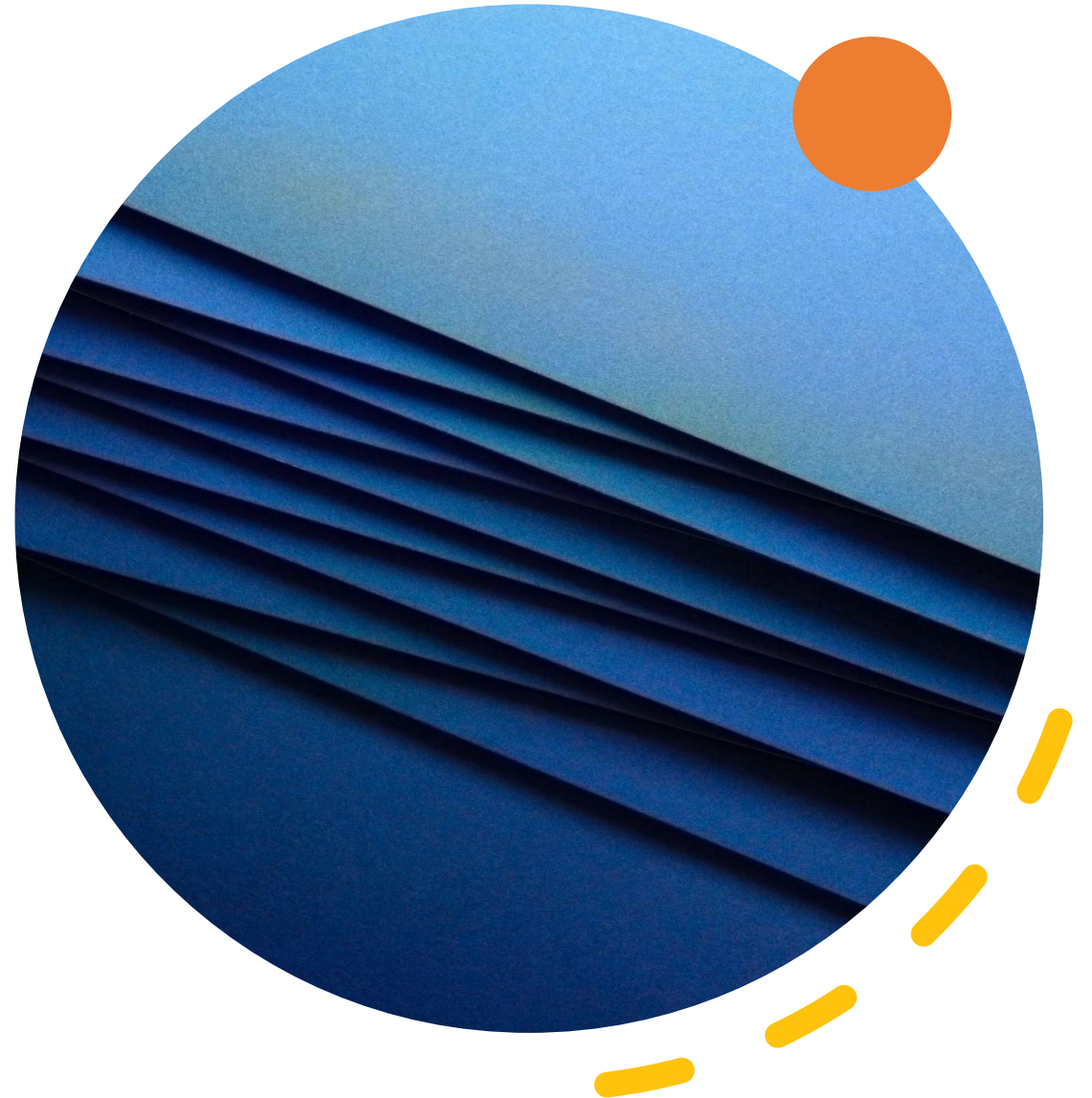
Then we check for missing values and duplicates in the rows



In the final step we make any necessary changes in the column and the values and create some other variables to complete the dataset



Finally, the dataset has 15 features and 359392 rows





Data analysis

For our Exploratory Data Analysis (EDA) we made the following assumptions

- 1) Total profit for each cab
- 2) Years profit analysis
- 3) Seasonality
- 4) Profit analysis based on age
- 5) Profit analysis based on city
- 6) KM travelled profit analysis
- 7) Profit analysis based on income

Total profit for each cab



As we can see there are significant difference in the number of rides between the two cabs. The Yellow Cab has approximately 140000 rides more. As a result, it has 39 million profit more than the Pink cab. Furthermore, Yellow cab has approximately 98 dollars more profit per one ride than the Pink cab.

Company	Profit	Number of Rides	Average Profit per 1 Ride
Pink Cab	5.307328e+06	84711	62.652174
Yellow Cab	4.402037e+07	274681	160.259986

Years profit analysis

Based on the following graph we observe that Yellow cab has more profits at each period over the years.



Seasonality

We observe seasonality, since in the period of September to January there are more profits in both cabs, while in period of May to August there are few profits. Yellow cab has almost more total profits than Pink cab in any time period.



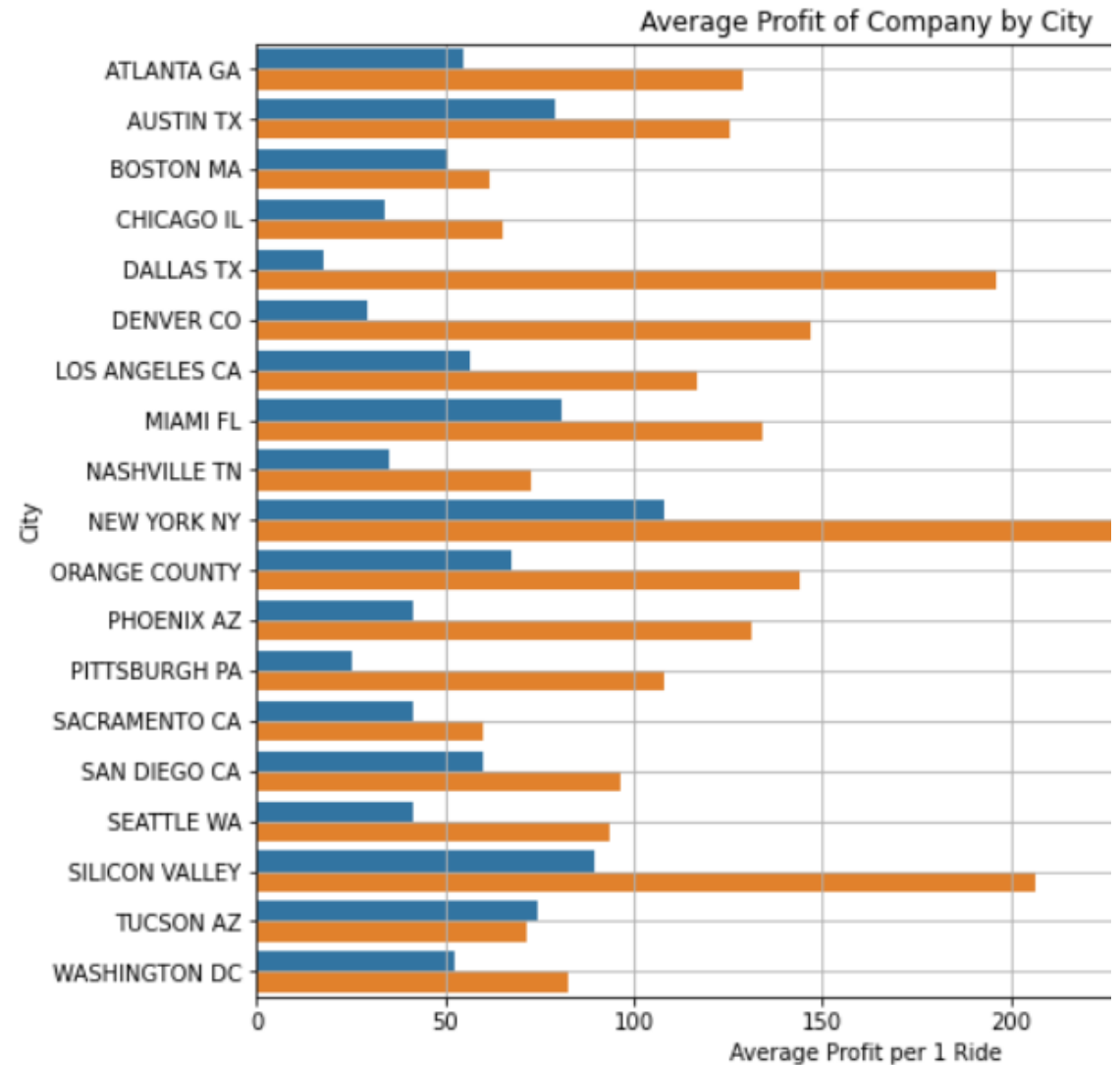
Profit analysis based on age

In the left-hand panel we can see that there are two zones. The zone of 20-40 and the 40-65. In both zones the total profit of Yellow cab is more. In the right-hand panel, as we expected yellow cab has more profits per 1 ride based on the ages 20-65.

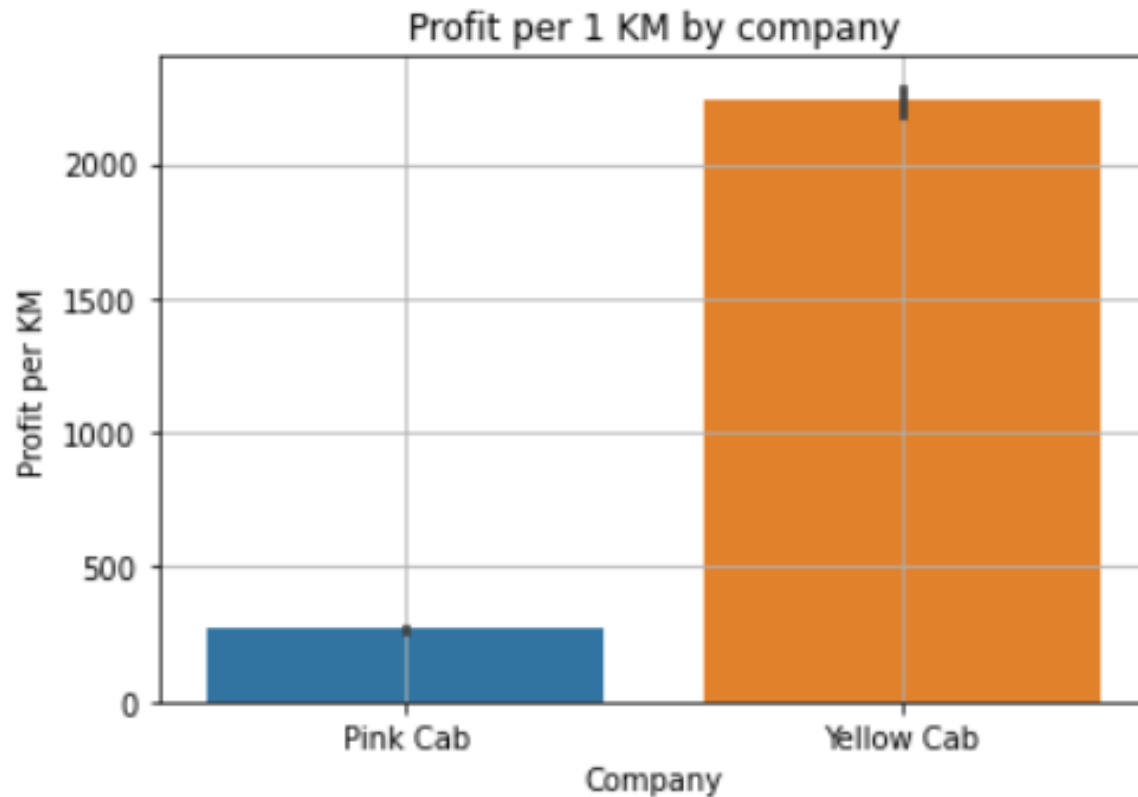


Profit analysis based on city

As we can see, Yellow cab has more profits per 1 ride in every city except for the city of Tucson Az which provides more profits from the Pink cab.



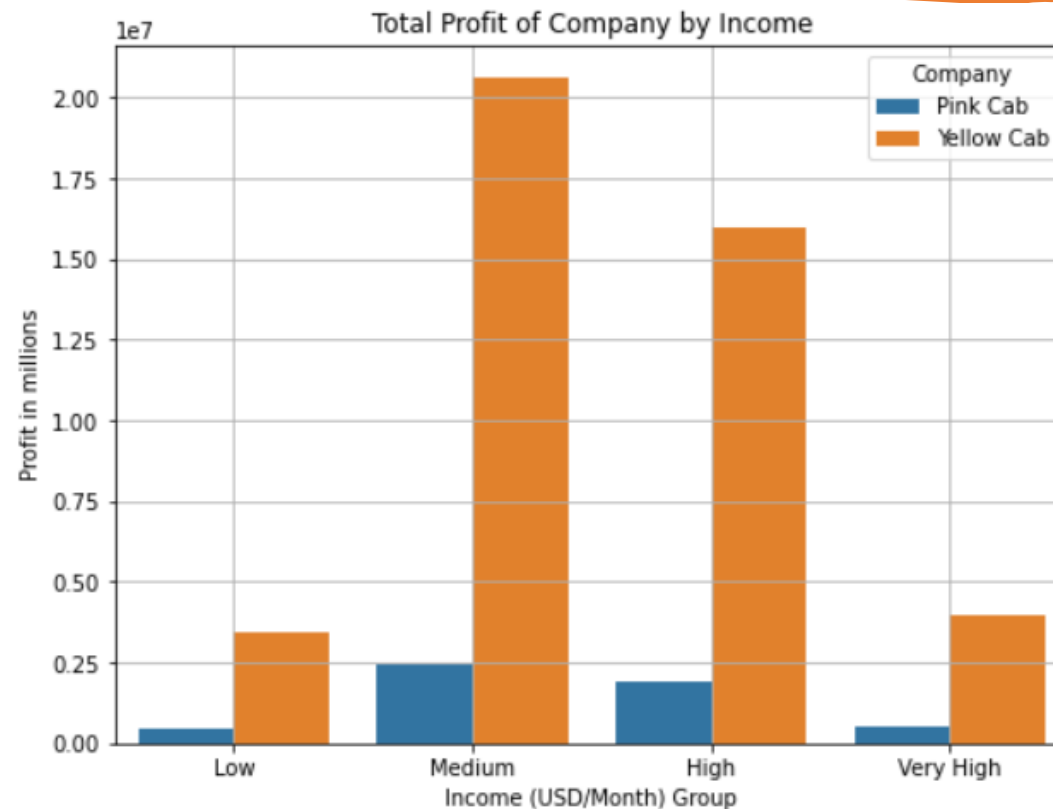
KM travelled profit analysis



There is significant difference between the two cabs. The Yellow one has more profits once again. The Pink cab provided approximately 250 total profit per 1 KM while the Yellow cab provided over 2000 profit!

Profit analysis based on income

In any case the total profit of Yellow cab is by far more than the Pink one.



Low Income -> 2000 – 3999

Medium Income -> 4000 – 15999

High Income -> 16000 – 24999

Very High Income -> 25000 – 35000

Profit analysis based on income

In the average profit per 1 ride there are no differences among the groups of income, but all of them have significant difference between the two cabs. The Yellow one has more profits per 1 ride.



Low Income -> 2000 – 3999

Medium Income -> 4000 – 15999

High Income -> 16000 – 24999

Very High Income -> 25000 – 35000

Recommendation

Based on the following assumptions.

- **Total profit for each cab:** Yellow cab has more total profits and average per 1 ride profits
- **Years profit analysis:** Yellow cab has more average profits the years 2016-01-01 to 2018-12-31
- **Seasonality:** Yellow cab has almost more total profits than Pink cab in any time period
- **Profit analysis based on age:** Yellow cab has more profits per 1 ride based on the ages 20-65
- **Profit analysis based on city:** Yellow cab has more profits per 1 ride in every city except for the city of Tucson Az which provides more profits from the Pink cab.
- **KM travelled profit analysis:** Yellow cab has 4 times more profits per 1 KM travelled than the Pink cab
- **Profit analysis based on income:** Yellow cab has more total profits and average per 1 ride profits based on income than the Pink cab

We recommend the Yellow cab for investment.

Thank you for your time



Data Glacier

Your Deep Learning Partner

