

KHANH CHI NGUYEN
MSDS 670 – FINAL PROJECT

ANALYSIS OF FAST-FOOD RESTAURANTS IN THE US

TABLE OF CONTENT

- Introduction
- Terminology
- Methodology
- Research Question
- Data Analysis
- Conclusions

INTRODUCTION

- This data set provides information about Fast-food restaurant in the US. The data set is shared on Kaggle.
- Link of data is here: <https://www.kaggle.com/datasets/thedevastator/fast-food-restaurants-in-the-united-states>

TERMINOLOGY

- In this analysis, there is a feature name “categories” which contains information about the types of restaurant such as: American food, Mexican food, Asian food, Sandwich, Ice cream, etc. There are more than 50 unique values of this feature, so I decide to simplify it as below rules:
 - group 1: fast food, burger, sandwich, pizza, & others -> Fast Food
 - group 2: Fast-food + American food -> American Food
 - group 3: Fast-food + Mexican, taco -> Mexican food
 - group 4: Fast-food + gas station, convenient, mall store -> Gas, Convenient, Mall
 - group 5: Fast-food + ice cream shop -> Ice-cream
 - group 6: Fast-food + Asian, Chinese, sushi -> Asian Food

METHODOLOGY

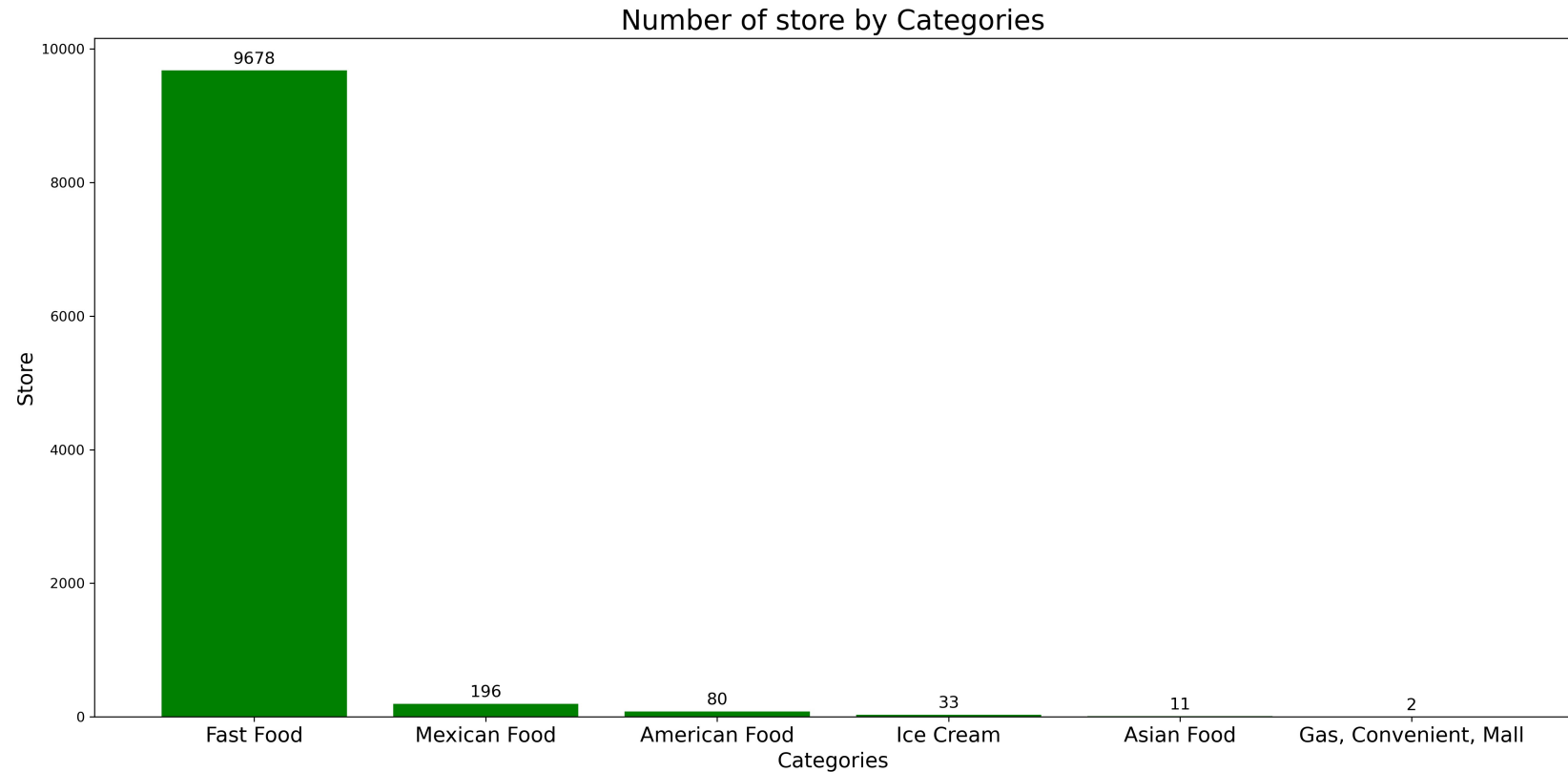
- The purpose of the dataset is to have an analysis about fast-food restaurants in the US. I will use geopandas, matplotlib, plotly, and pandas for the analysis.
- I used Spyder as the main coding software and Jupyter Notebook as the supportive software.
- In Spyder, I can't export the choropleth map to image, so I exported it by Jupyter Notebook.

RESEARCH QUESTION

- US is well known as the country of fast-food, so if the 'fast-food' type is the biggest type of restaurant?
- Where are they most located?
- And which brands are overwhelming the industry?

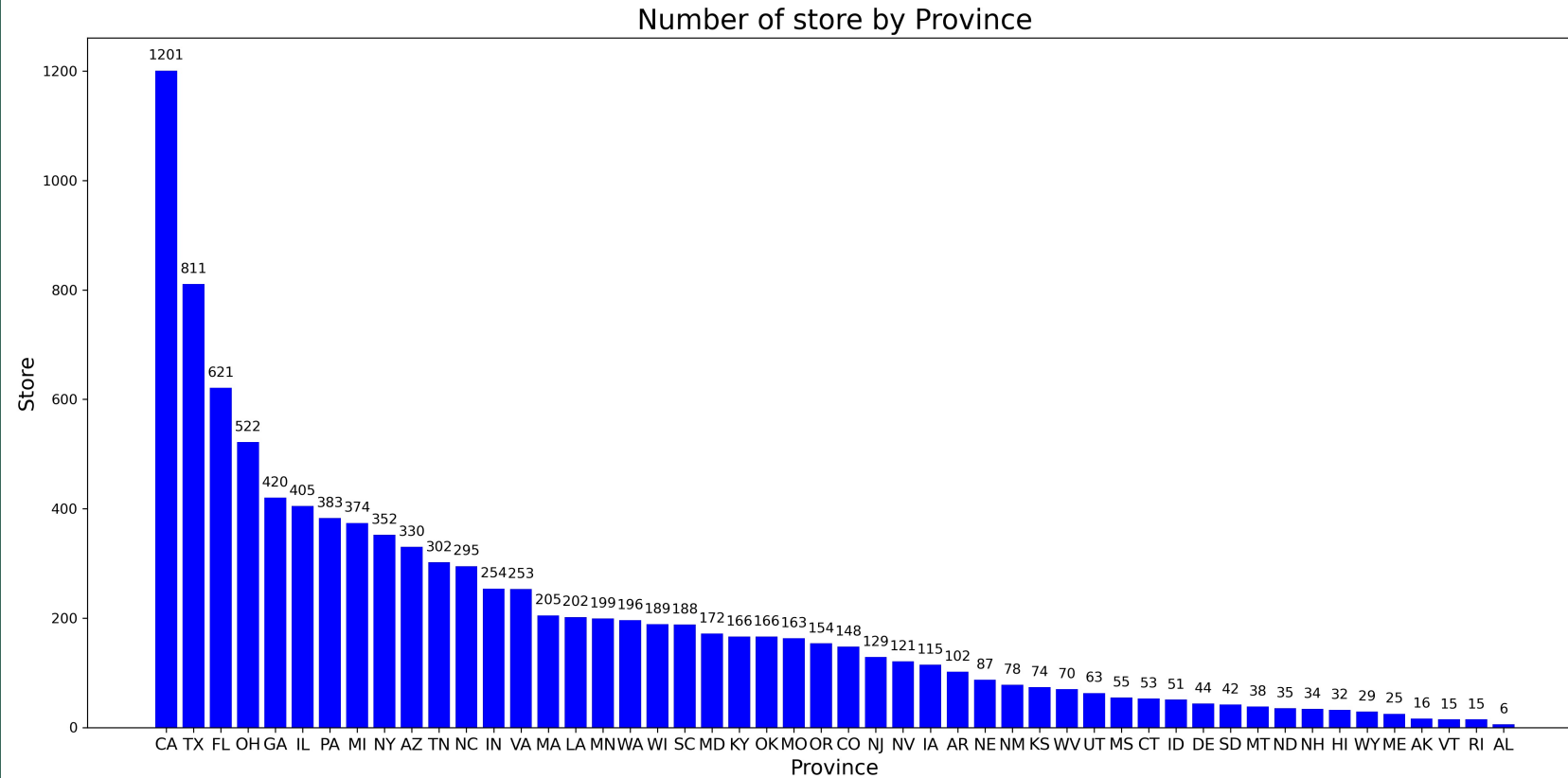
FAST-FOOD IS THE MOST POPULAR TYPE OF RESTAURANT IN THE US

- There are 9678 fast-food restaurant while only 196 Mexican food restaurants, 80 American Food restaurants, 33 Ice cream shops, 11 Asian Food, and only 2 Convenient/Gas/Mall.



CA, TX, FL ARE THE TOP 3 STATES HAVING HIGHEST NUMBER OF STORES

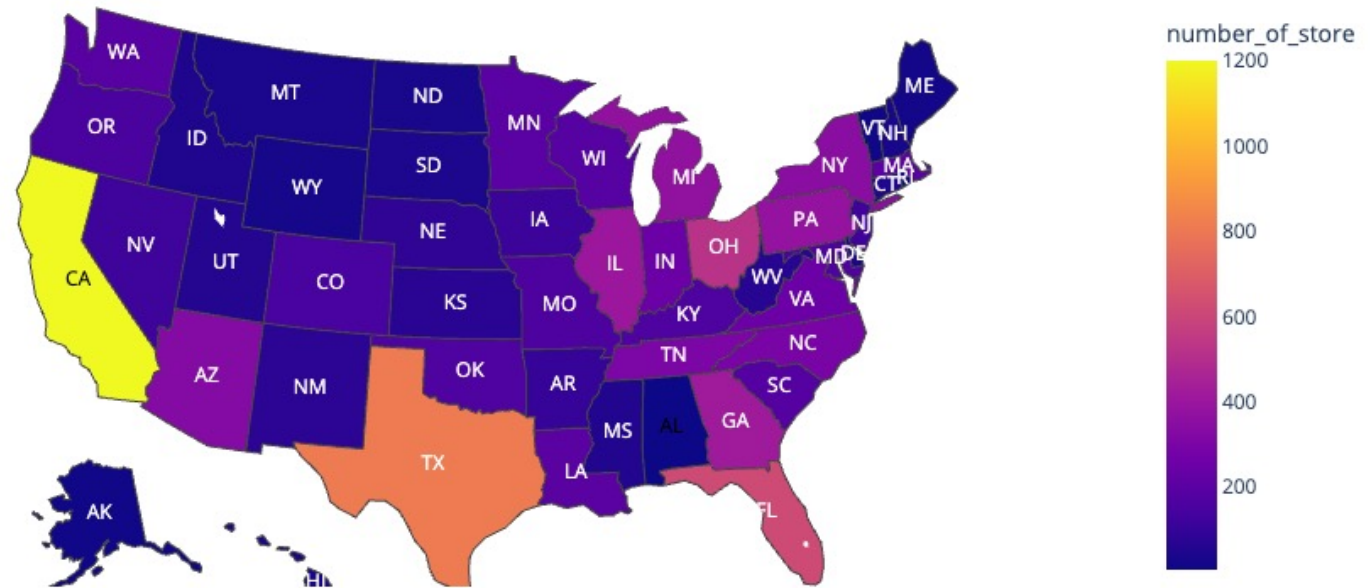
- California, Texas, Florida are known as the top active and crowded states, that's why restaurants are mostly located here.



RESTAURANTS MOSTLY CONCENTRATE AT CROWDED, WARM AND COASTAL STATES

- Seeing the store distribution on the map, we can see that restaurants are more at crowded, warm and coastal states such as: CA, TX, FL, OH, AZ.
- And cold, inland states have less restaurants

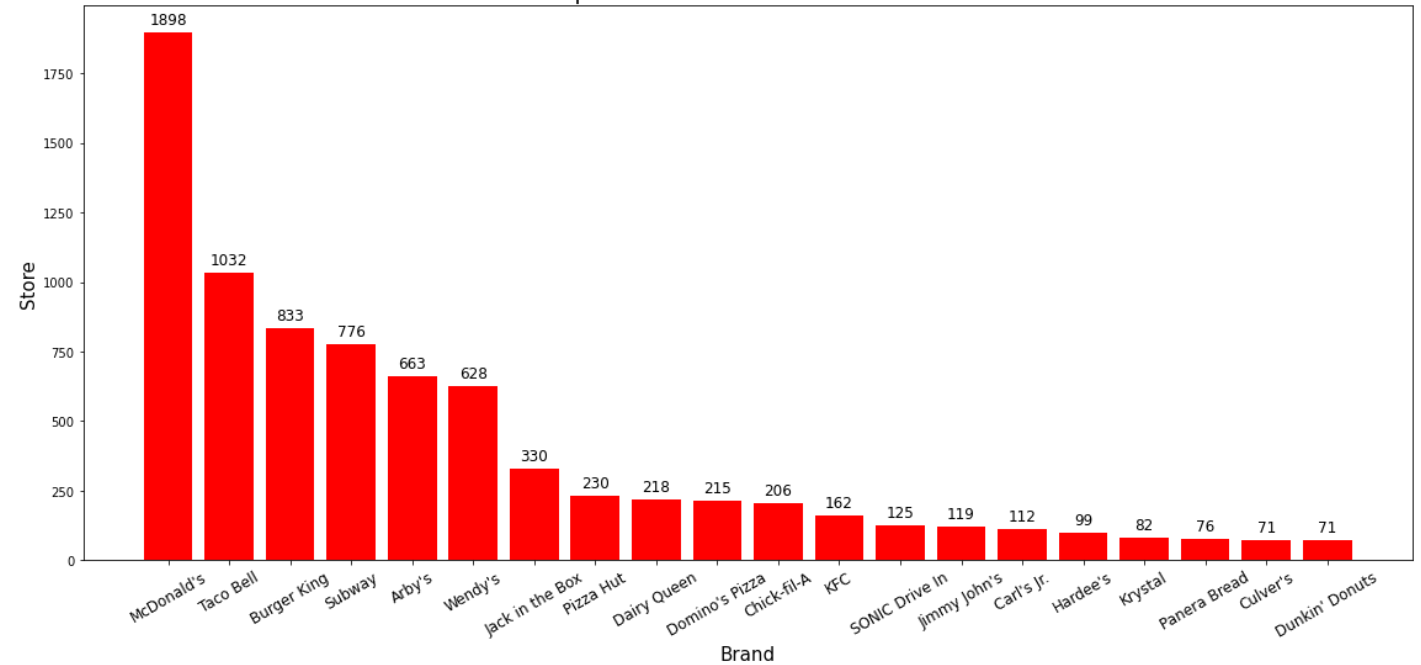
Number of store Density plot



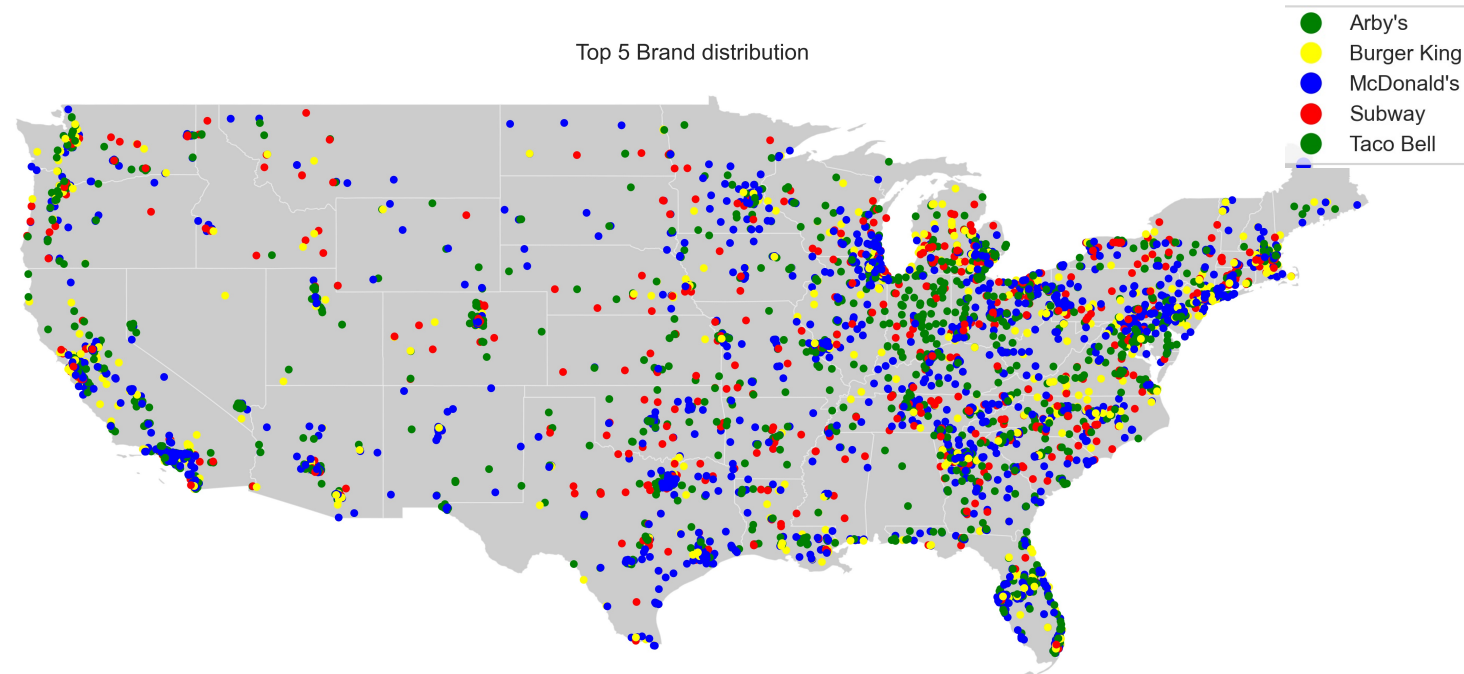
MCDONALD'S IS THE MARKET LEADER IN THE US WITH WIDEN DISTRIBUTION ACROSS THE COUNTRY.

- With 1898 stores and mostly distributed in all the states of the US, McDonald's is considered as the market leader in fast-food industry in the US.
- Taco Bell and Burger King also have a strong store system but not dense as McDonald's.

Top 20 FastFood brand in the US



Top 5 Brand distribution



CONCLUSION

- We can confirm that fast-food is the most popular type of restaurant in the US with 9678 stores across the country.
- California, Texas, Florida are known as the top active and crowded states, that's why restaurants are mostly located here. Restaurants are clustered in crowded, warm and coastal states such as: CA, TX, FL, OH, AZ
- In this fast-food industry, McDonald's is considered as the market leader with 1898 stores distributed at all the states in the US. Taco Bell and Burger King are also big players when having store systems but not dense as McDonald's.



THANK YOU

