

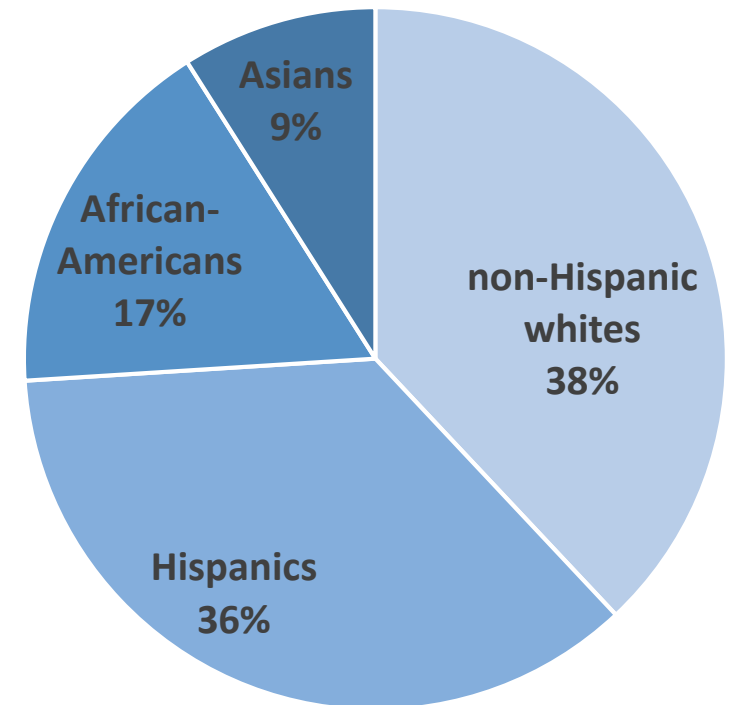
# Houston Targeted Food Advertising

# Outline

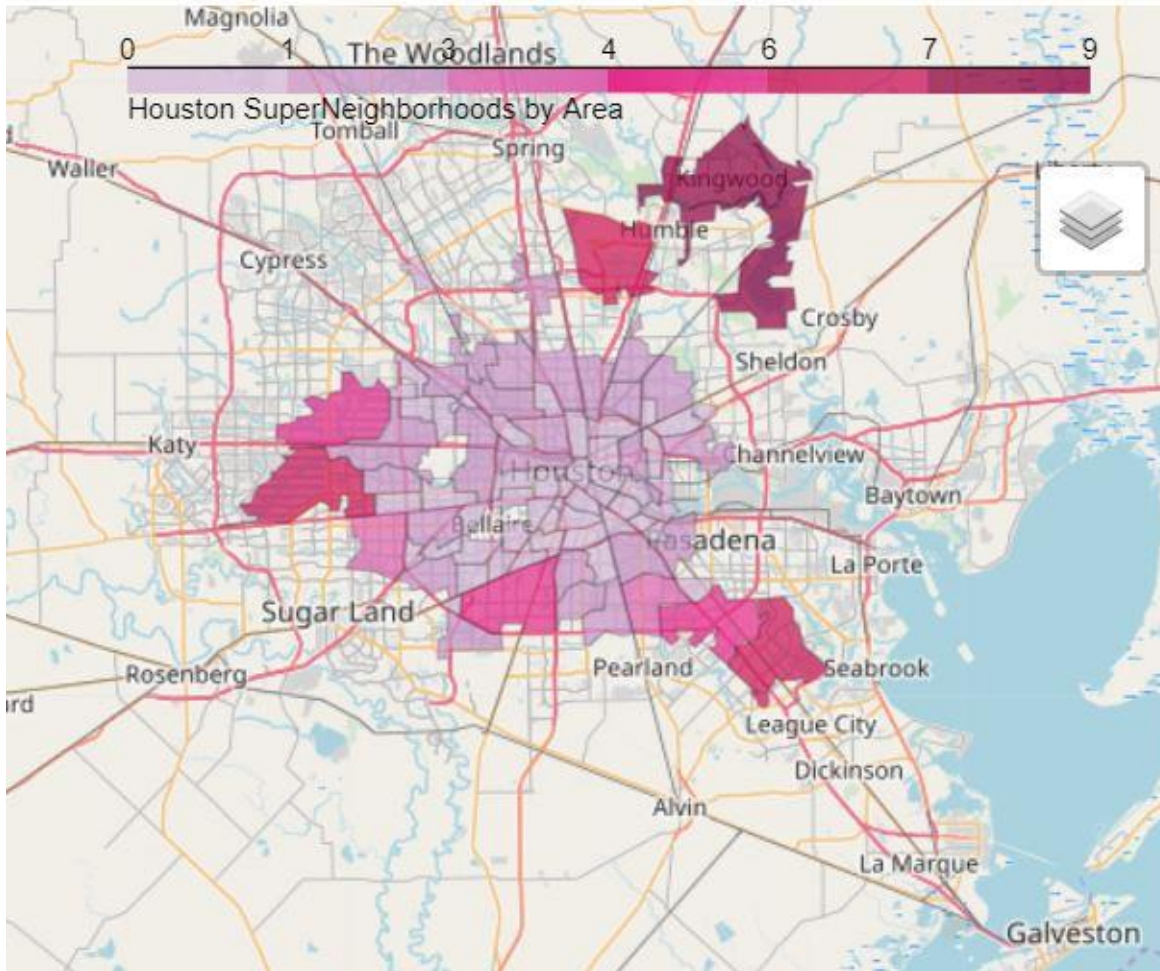
- Houston at a glance
- Business problem
- Data
- Methodology
- Discussion of the results
- Conclusions

# Houston at glance - Demographics

- 4th most populous city in the United States
- 2.3 Million people
- The most ethnically diverse metropolitan area in the United States
- 145 languages are spoken



# Houston at glance - Area



8th most expansive city in the US  
1,620 sq.km – total area  
87 SuperNeighborhoods

# Business problem

Due to the diverse nature of the Houston area the targeted advertising has a clear business value. In this project the focus is on food.

Choosing to eat at a restaurant is often a decision influenced by habit and proximity

With a wide distribution in area, ethnicity, income, etc identification of the most representative audience is not a straight forward task.

However, once you have the dietary landscape in place it can be used to attract the audience and drive the business.

The purpose of this project is to explore the food preferences landscape of Houston area.

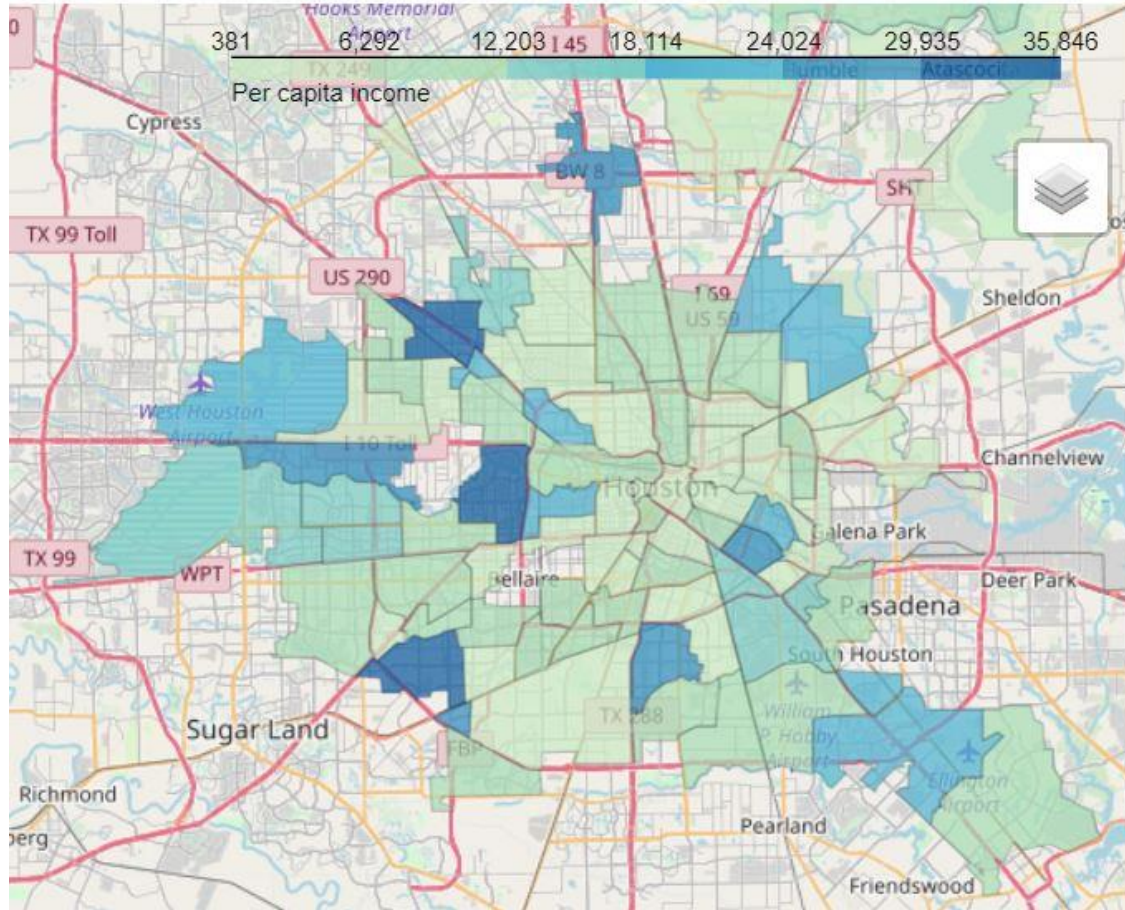
# Data

- Houston geospatial data-Geogson file with geographical information about each SuperNeighborhood in Houston (<https://cohgis-mycity.opendata.arcgis.com>)
- Census data on Houston demographics, in particular the average income per capita in each of Houston SuperNeighborhoods ('Census\_2010\_By\_SuperNeighborhood.csv', <https://toolbox.google.com/datasetsearch>)
- Foursquare Labs for information about popular food choices in each SuperNeighborhoods ( during the search neighborhoods venues are limited to category ID- Food )

# Methodology

- Identify location of each neighborhood in Houston (Latitude, Longitude of neighborhood center)
- Collect information about food venues in the neighborhood (Foursquare)
- Identify top 3 choices
- Load income data (census data set)
- Use machine learning to cluster neighborhoods based on venues and income data
- Analyze the results

# Houston per capita income



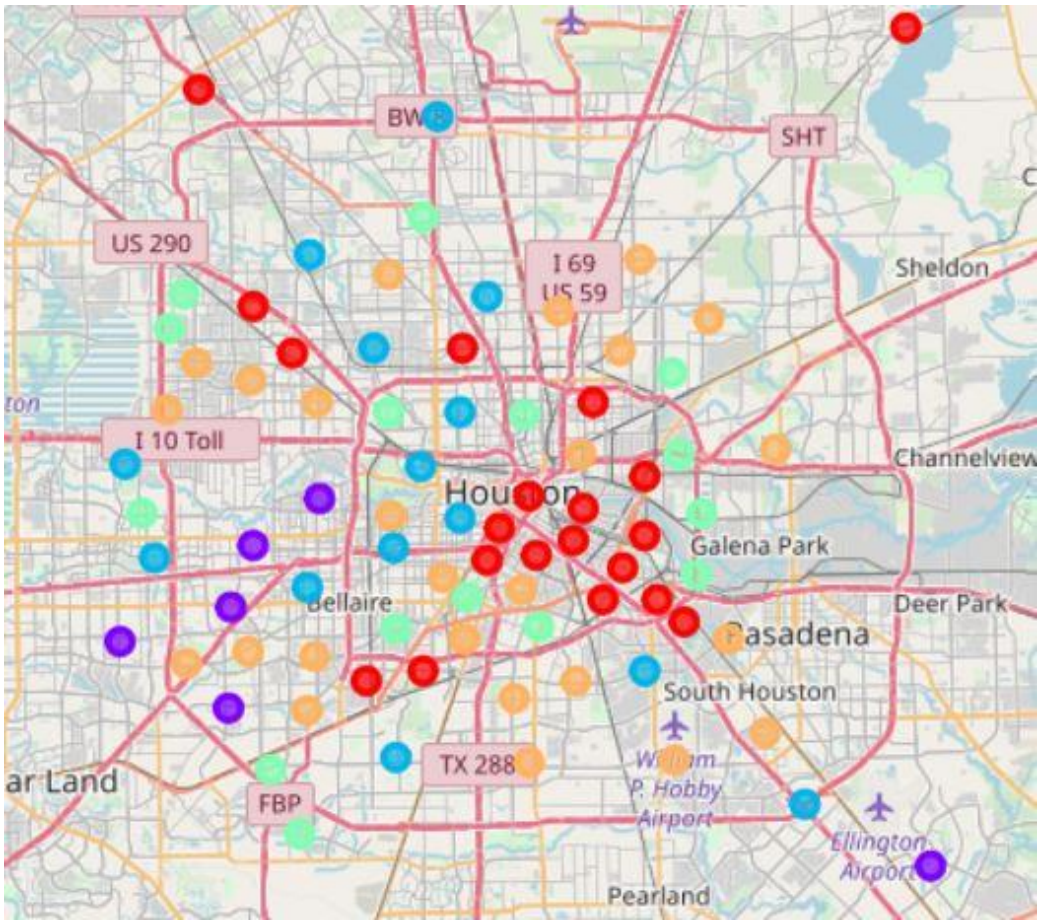
Wide range of income: \$1-35K  
Median income \$20K



# Discussion of the results

- As per Foursquare Houston has 87 unique categories of food places
- Thousands of restaurants ranging from food track to the high end restaurant
- Based on the study done: Pizza, Mexican and Fast food are popular all-around the Houston area
- However clustering helped to reveal certain food patterns (next slide)

# Discussion of the results



Houston dietary landscape

CC	Per capita Income	Top food choices
●	<2K	Food Truck/BBQ/Sandwich
●	3-7K	Food Truck/Chinese
●	7-15K	Food Truck/Burger Joint/Seafood
●	15-20	American
●	>20	American /Italian/Asian/Mediterranean

# Conclusion

- Houston has pretty sharp food landscape
- Neighborhoods with the distinct preferences were identified and highlighted on the map
- The Top food preferences in each neighborhood are identified
- The preference common for all neighborhoods were highlighted
- Analysis can be used as a back bone for the targeted ads placement in the neighborhoods