Chatime's Franchise Expansion to Miami, FL

IBM Applied Data Science Capstone Project
By: Kali Benavides

Predicting where to locate a new Chatime restaurant in Miami, FL is valuable to Chatime's business owners
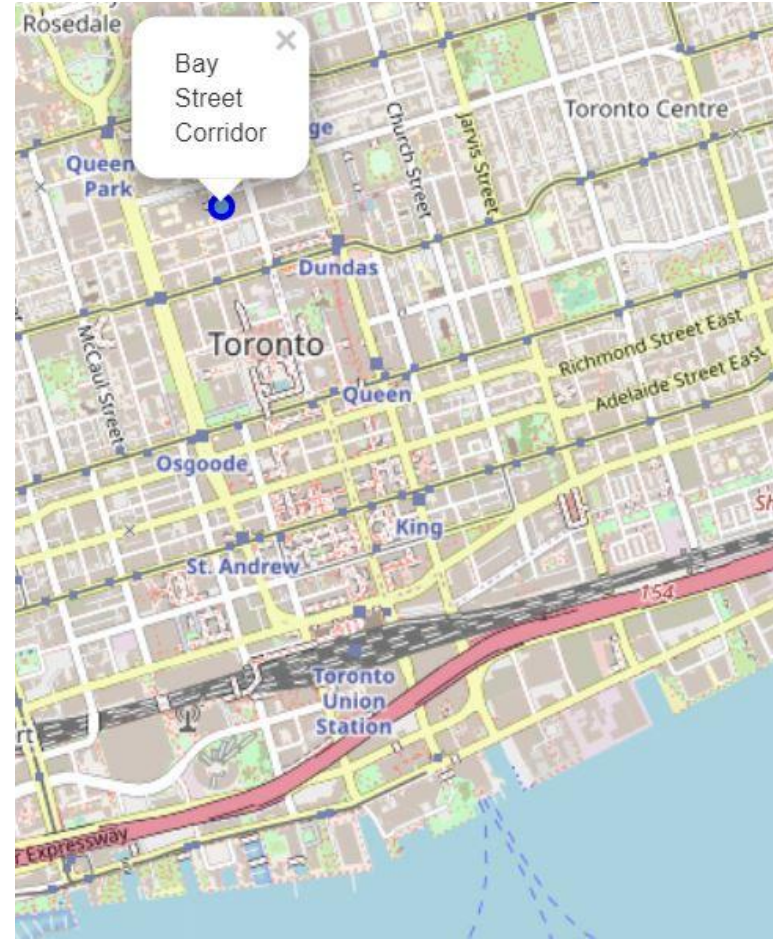
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- Chatime's business owners want to ensure their next Chatime location is as successful as the original location in Toronto, CA
- This value is recognized by the business owners in allowing them to select an optimal new location.
- Other restaurant developers with business in both Toronto and Miami may have interest as well.

Data Acquisition and Cleaning

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- Toronto neighborhood names and GPS data are sourced from Open Toronto https://open.toronto.ca/dataset/neighbourhoods/
- Toronto neighborhood population density data is sourced from Open Toronto https://open.toronto.ca/dataset/neighbourhood-profiles/
- Miami neighborhood names, GPS data and population density are sourced from Wikipedia https://en.wikipedia.org/wiki/List_of_neighborhoods_in_Miami
- Venue data and venue categories are sourced from Foursquare API
- Raw data for Toronto neighborhood contained (1 row, 4 features), Cleaned data contained (1 row, 6 features)
- Raw data for Miami neighborhoods contained (24 rows , 6 features), Cleaned data contained (23 rows, 6 features)
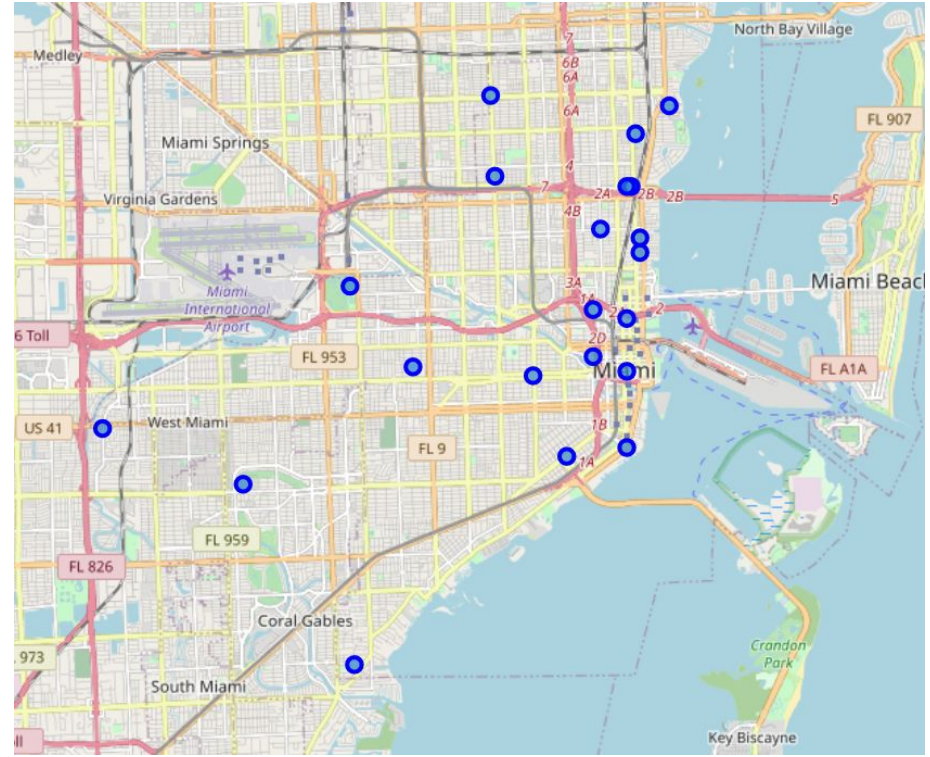
Original Chatime Toronto Location

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- The original Chatime bubble tea restaurant is located in the Bay Street Corridor Neighborhood of the City of Toronto.

City of Miami Neighborhoods

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- Mapped are neighborhoods in the city of Miami.
- They represent location options for a new Chatime location.

Venue Data

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- Venue data was collected within a 500 meter radius of each neighborhood center, using Foursquare API.
- The top ten most common venue categories were then used to cluster the neighborhoods.
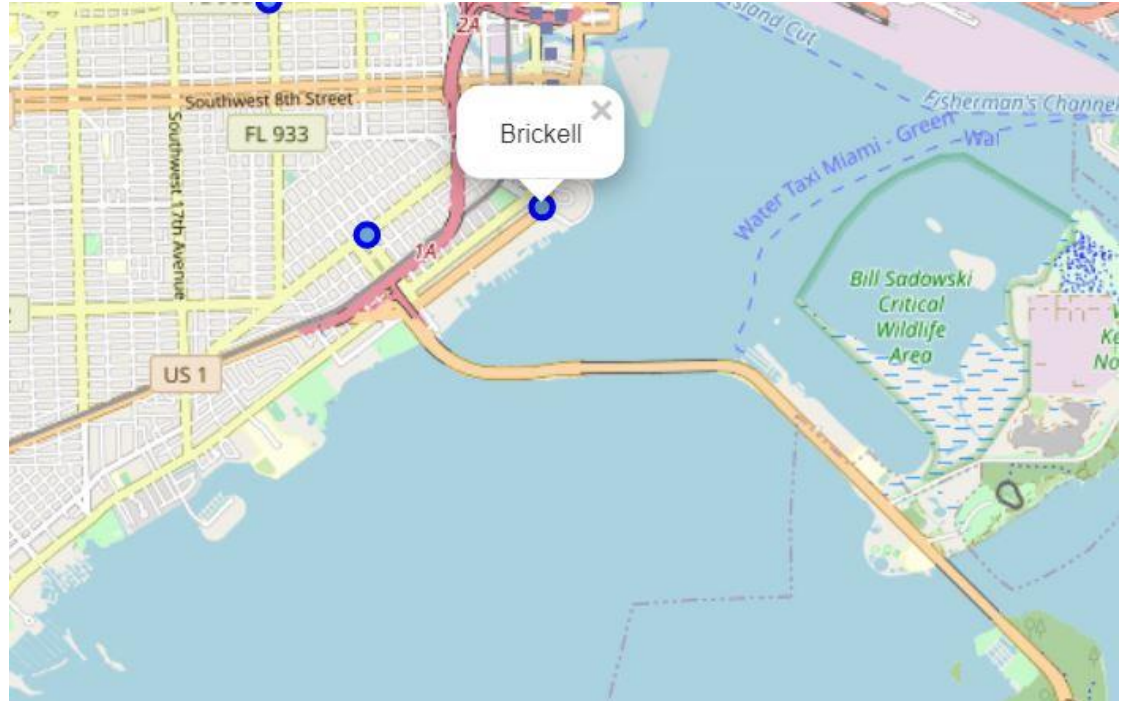
K-Means Clustering Model

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- K-Means clustering was performed with 5 clusters.
- The model yielded the following clusters:
  - Cluster 1: Lower Economic
  - Cluster 2: Restaurant/Social Activities
  - Cluster 3: Low/Medium Economic Neighborhood
  - Cluster 4: Outdoor/Waterside establishments
  - Cluster 5: Latin American restaurants
- Bay Street Corridor neighborhood was placed in Cluster 2
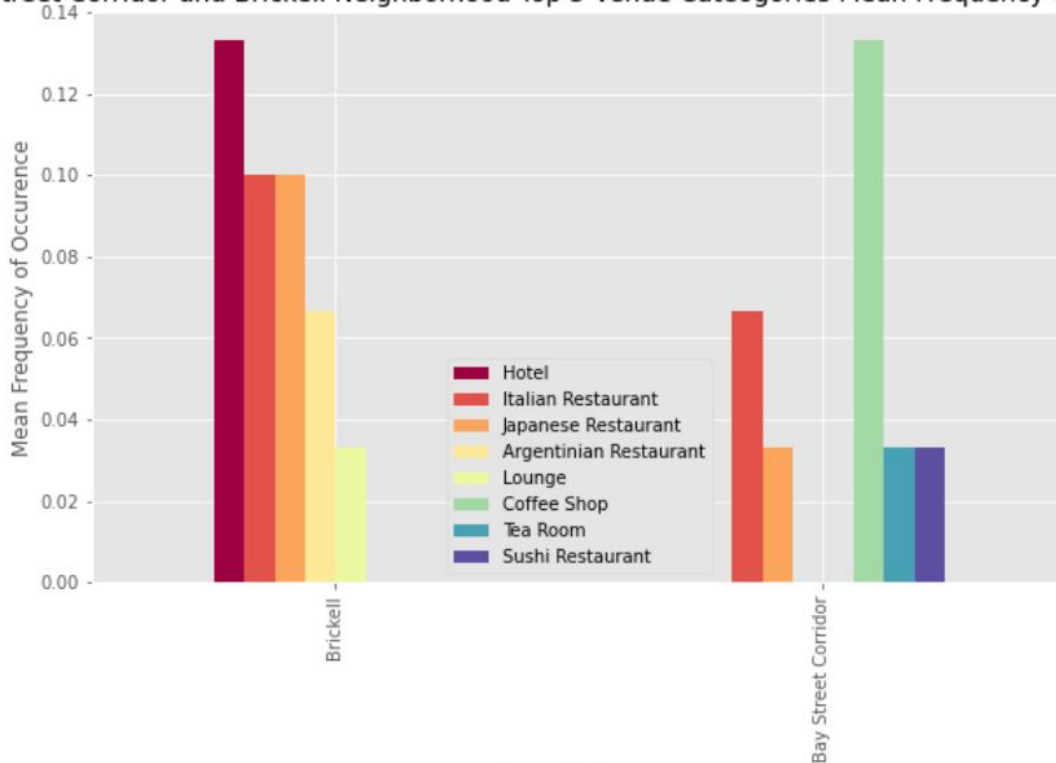
Neighborhood Most Similar to Bay Street Corridor

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Miami Neighborhood of Brickell

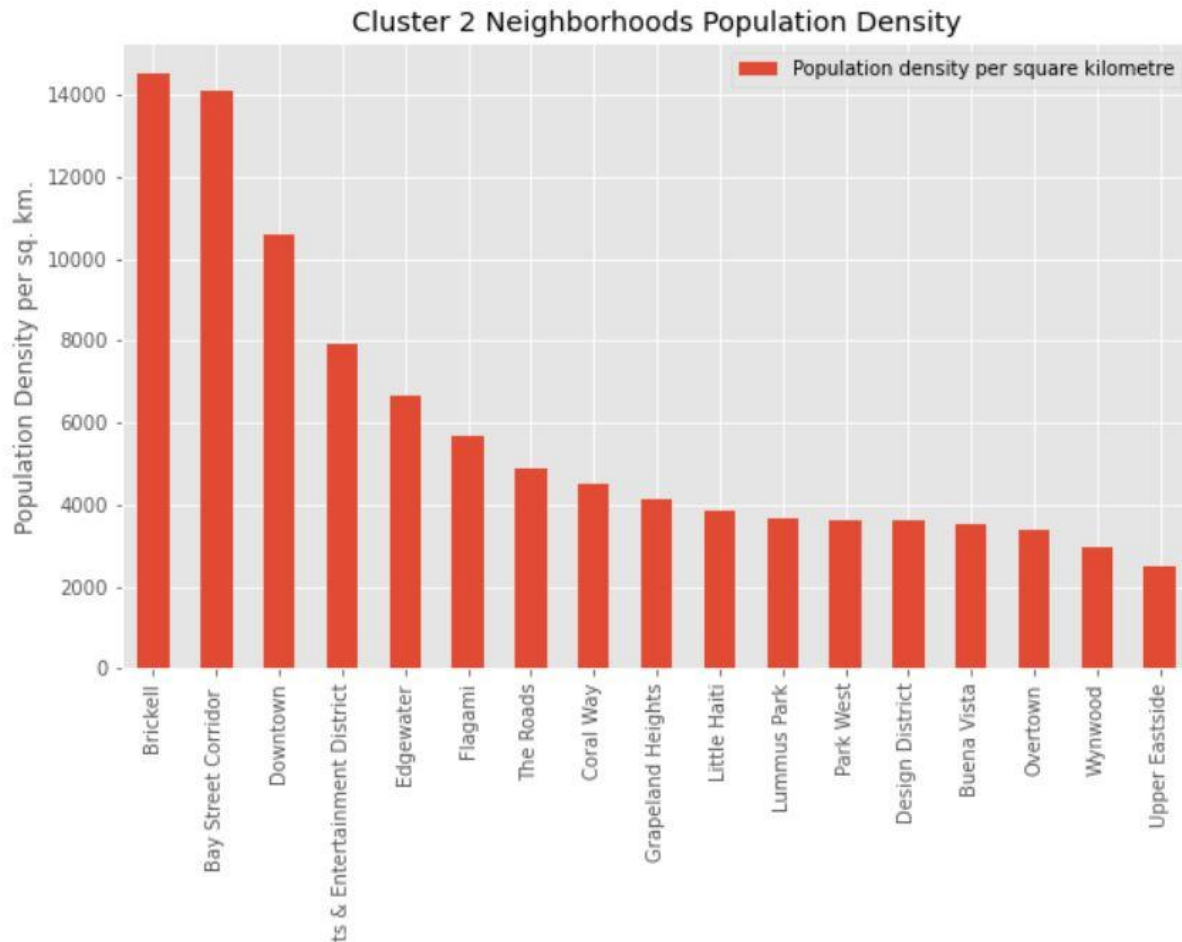# Similarity of Venue Categories in Brickell and Bay Street Corridor

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- Visual representation showing why these two neighborhoods were clustered together based on their most common venue categories.
- Also of note are overlapping categories such as Japanese restaurant and Sushi Restaurant.

Bay Street Corridor and Brickell Neighborhood Top 5 Venue Cateogories Mean Frequency of Occurrence

Legend:
- Hotel
- Italian Restaurant
- Japanese Restaurant
- Argentinian Restaurant
- Lounge
- Coffee Shop
- Tea Room
- Sushi Restaurant

Similarity of Population Density in Brickell and Bay Street Corridor

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- Visual representation showing why the similarity of the population density in these two neighborhoods.
- Are also the highest population densities compared to the other neighborhoods in this cluster.

Cluster 2 Neighborhoods Population Density

Conclusion and Future Research

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- Built a model to predict which Miami neighborhood the Chatime business owners should select for their next franchise location. This model analyzed which neighborhood in Miami is most similar to the Toronto neighborhood of Bay Street Corridor.
- The model could be improved by incorporating more socioeconomic data about the different neighborhoods.

  Ideas include:
  - Mean household income, revenue generated by existing restaurants in the area, or demographics of customers (such as age or ethnicity).