



# Boston Recreation Tour: How Neighborhoods Can Best Stay Active

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# Problem / Objective

- What options do individuals have to begin an active lifestyle in the neighborhoods of Boston, Massachusetts?
- How similarly do neighborhoods in Boston like to stay fit?
- What options do different neighborhoods have in common?
- Which areas of Boston are best for different kinds of physical activity?

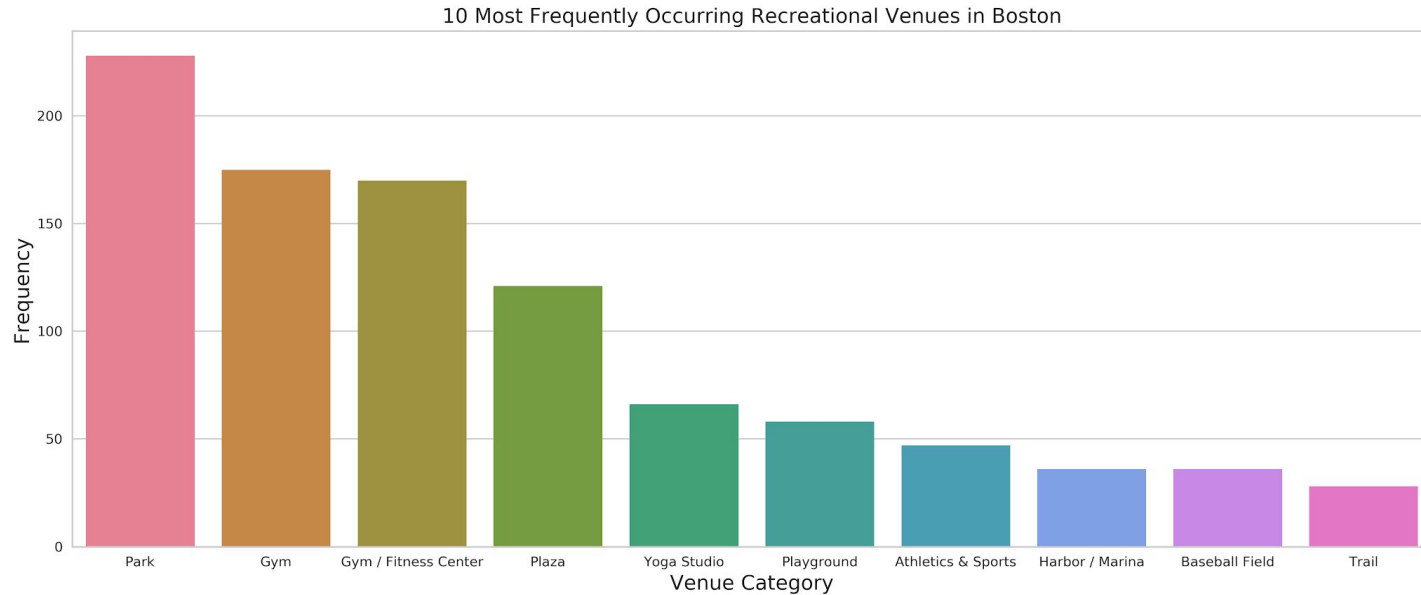
# Data

- Data Needed:
  - A list of neighborhoods in Boston, Massachusetts.
  - Latitude and Longitude coordinates of Boston Neighborhoods.
  - Data on recreational venues in each Boston Neighborhood.
- Data Needed:
  - The following Wikipedia article was scraped for a list of neighborhoods: [List of Neighborhoods in Boston](#)
  - Latitude and Longitude values were collected using Nominatim
  - Recreational venue data was collected using the Foursquare Places API.

# Methods

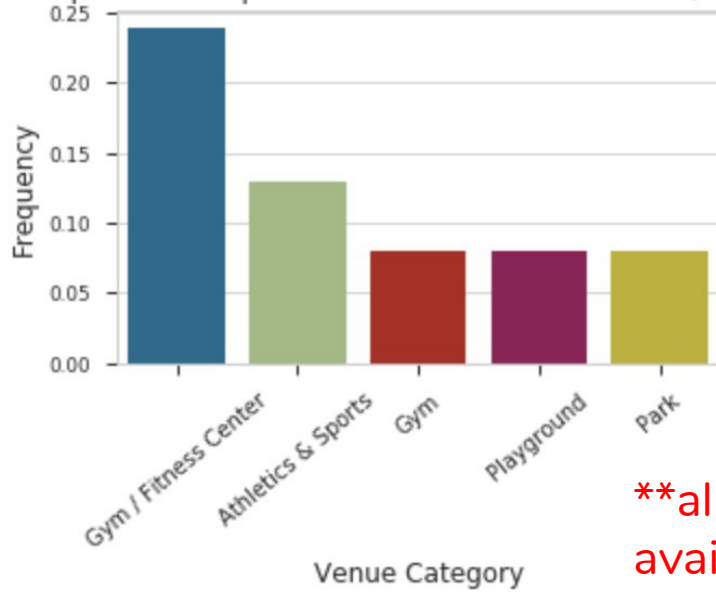
- Scrape Wikipedia page to get list of neighborhoods using BeautifulSoup
- Get latitude and longitude values for neighborhoods using Nominatim
- Use Foursquare API to get Recreational Venue Data
- Combine all data, do one-hot encoding, and group data by neighborhood and take the mean of the frequency of each category
- Perform K-means clustering on the dataset
- Use Folium to visualize the resulting clusters

# Top 10 Recreational Venues in Boston

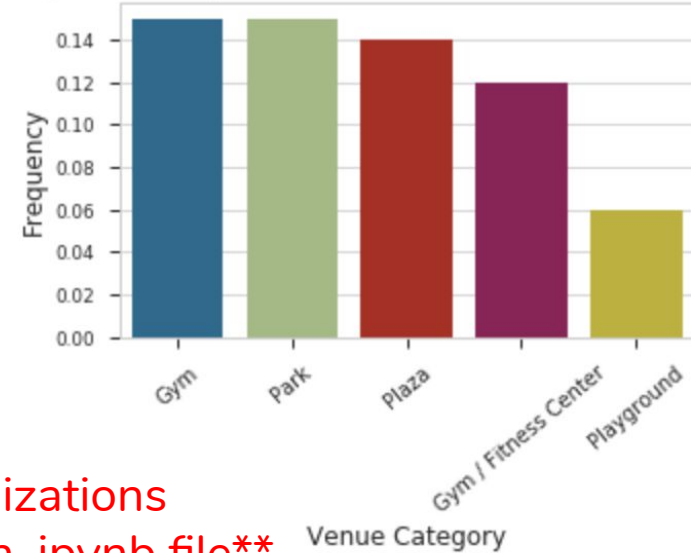


# Top 5 Venues in Each Neighborhood

Top 5 Most Frequent Recreation Venues in Allston, Boston



Top 5 Most Frequent Recreation Venues in Beacon Hill, Boston

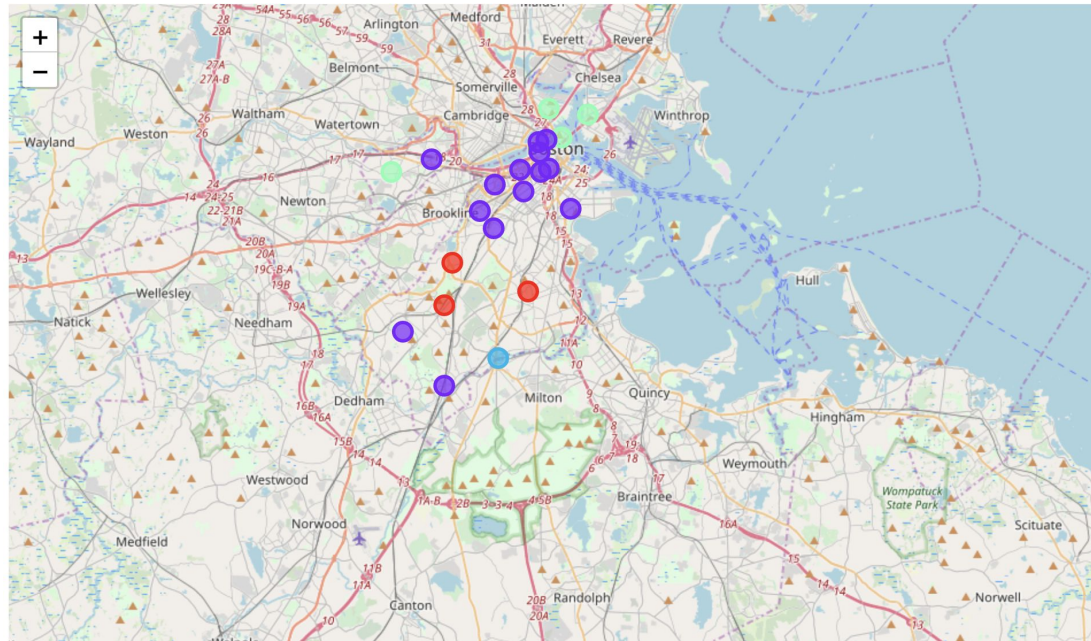


**\*\*all visualizations  
available in .ipynb file\*\***

# Results

- Cluster 1 contains neighborhoods in Boston that have very high numbers of plazas and parks.
- Cluster 2 contains neighborhoods with high numbers of gyms and fitness centers
- Cluster 3 contains the neighborhood Mattapan, where the most frequent recreational venue is a yoga studio.
- Cluster 4 has neighborhoods with an high number of parks, but not many plazas.

# Cluster Visualization





# Discussion

- Cluster 1 (Dorchester, Jamaica Plains, and Roslindale) is all ideal for someone who likes to keep fit in an open public space or in parks.
- Cluster 2 (Allston, Back Bay, Bay Village, Beacon Hill, Chinatown, Downtown, Fenway Kenmore, Hyde Park, Mission Hill, Roxbury, South Boston, South End, West End, and West Roxbury) is ideal for those looking to train in a traditional gym setting.
- Cluster 3 (Mattapan) is ideal for those looking to join a yoga studio.
- Cluster 4 (Brighton, Charlestown, East Boston, North End) is ideal location for those who like to stay fit outside in the middle of nature.

# Conclusion

- Boston has plenty of options for people to stay fit.
- The top 10 options in Boston are Parks, Gyms, Gym / Fitness Centers, Plazas, Yoga Studios, Playgrounds, Athletics & Sports, Harbor / Marinas, Baseball Fields, and Trails.
- Boston neighborhoods like to stay fit quite similarly, as per our clusters.
- Different areas of Boston are better suited for certain kinds of physical activities, as per our clusters.