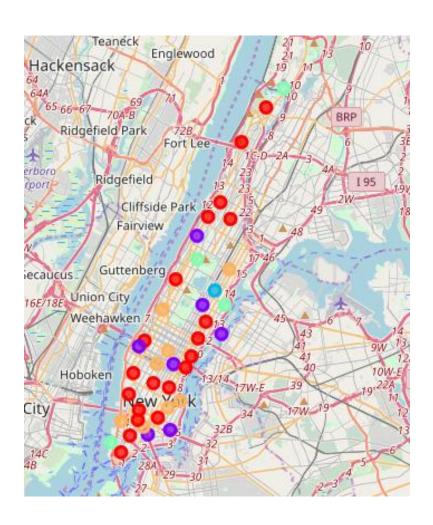
## Manhattan restaurant analysis

Capstone project

## Restaurant clusters



Total 40 neighborhoods in Manhattan

979 restaurants returned by searching the top 200 venues within a radium of 500 meters per neighborhood from Foursquare

## Manhattan has 76 different types of restaurant, offering wide selection of foods

| Top 10 Restaurant   | Total number | % Total venue |
|---------------------|--------------|---------------|
| Italian Restaurant  | 136          | 14%           |
| American Restaurant | 77           | 8%            |
| Mexican Restaurant  | 58           | 6%            |
| French Restaurant   | 57           | 6%            |
| Sushi Restaurant    | 47           | 5%            |
| Chinese Restaurant  | 46           | 5%            |
| Japanese Restaurant | 43           | 5%            |
| Seafood Restaurant  | 40           | 4%            |
| Indian Restaurant   | 30           | 3%            |
| Thai Restaurant     | 27           | 3%            |

 Italian, America, and Mexican restaurants have the most representation

# Greenwich Village, Chinatown, and East Village are the most competitive neighborhoods

| Neighborhood      | Total venues | Neighborhood        | Total venues |
|-------------------|--------------|---------------------|--------------|
| Greenwich Village | 44           | Civic Center        | 24           |
| Chinatown         | 41           | Financial District  | 22           |
| East Village      | 40           | Manhattan Valley    | 22           |
| Turtle Bay        | 38           | Washington Heights  | 22           |
| Upper West Side   | 37           | Clinton             | 21           |
| West Village      | 36           | Midtown             | 21           |
| Noho              | 34           | Hamilton Heights    | 19           |
| Murray Hill       | 33           | Soho                | 19           |
| Flatiron          | 32           | Manhattanville      | 18           |
| Midtown South     | 31           | Lincoln Square      | 16           |
| Sutton Place      | 30           | East Harlem         | 15           |
| Lenox Hill        | 29           | Inwood              | 15           |
| Tudor City        | 28           | Lower East Side     | 15           |
| Yorkville         | 28           | Central Harlem      | 14           |
| Tribeca           | 27           | Hudson Yards        | 14           |
| Carnegie Hill     | 26           | Battery Park City   | 10           |
| Chelsea           | 26           | Morningside Heights | 9            |
| Gramercy          | 26           | Marble Hill         | 2            |
| Little Italy      | 26           | Roosevelt Island    | 2            |
| Upper East Side   | 26           | Stuyvesant Town     | 1            |
|                   |              |                     |              |

## Cluster 1 (red color dots on map)

|    | Neighborhood          | 1st Most Common<br>Venue | 2nd Most Common<br>Venue   | 3rd Most Common<br>Venue  | 4th Most Common<br>Venue   | 5th Most Common<br>Venue | 6th Most Common<br>Venue | 7th Most Common<br>Venue | 8th Most Common<br>Venue         | 9th Most Common<br>Venue | 10th Most Common<br>Venue        |
|----|-----------------------|--------------------------|----------------------------|---------------------------|----------------------------|--------------------------|--------------------------|--------------------------|----------------------------------|--------------------------|----------------------------------|
| 2  | Washington<br>Heights | Café                     | Bakery                     | Mobile Phone Shop         | Spanish Restaurant         | Sandwich Place           | Chinese Restaurant       | Shoe Store               | Grocery Store                    | Gym                      | Mexican Restaurant               |
| 3  | Inwood                | Café                     | Mexican Restaurant         | Pizza Place               | Lounge                     | Deli / Bodega            | Wine Bar                 | A merican Restaurant     | Bakery                           | Restaurant               | Park                             |
| 4  | Hamilton Heights      | Mexican Restaurant       | Deli / Bodega              | Café                      | C offee Shop               | Pizza Place              | Yoga Studio              | Chinese Restaurant       | Sandwich Place                   | Cocktail Bar             | Liquor Store                     |
| 5  | Manhattanville        | Deli / Bodega            | Sushi Restaurant           | Italian Restaurant        | Mexican Restaurant         | Seafood Restaurant       | Diner                    | Supermarket              | Burger Joint                     | Bus Station              | Spanish Restaurant               |
| 6  | Central Harlem        | African Restaurant       | French Restaurant          | Pizza Place               | American Restaurant        | Gym / Fitness Center     | Cosmetics Shop           | Chinese Restaurant       | Seafood Restaurant               | Bookstore                | Ethiopian Restaurant             |
| 10 | LenoxHill             | Italian Restaurant       | Coffee Shop                | Sushi Restaurant          | Gym / Fit ness Center      | Pizza Place              | Gym                      | Sporting Goods Shop      | Burger Joint                     | Art Gallery              | Bakery                           |
| 12 | Upper West Side       | Italian Restaurant       | Bar                        | Coffee Shop               | Wine Bar                   | Bakery                   | Burger Joint             | Indian Restaurant        | Vegetarian / Vegan<br>Restaurant | Seafood Restaurant       | Gym / Fitness Center             |
| 14 | Clinton               | Theater                  | Coffee Shop                | Gym / Fitness Center      | American Restaurant        | Italian Restaurant       | Gym                      | Wine Shop                | Spa                              | Hotel                    | Dog Run                          |
| 17 | Chelsea               | C offee Shop             | Italian Restaurant         | Ice Cream Shop            | Nightclub                  | Bakery                   | American Restaurant      | Hotel                    | Seafood Restaurant               | Theater                  | Art Gallery                      |
| 18 | Greenwich Village     | Italian Restaurant       | Sushi Restaurant           | Clothing Store            | French Restaurant          | Seafood Restaurant       | Indian Restaurant        | Café                     | Chinese Restaurant               | Sandwich Place           | Caribbean Restaurant             |
| 23 | Soho                  | Clothing Store           | Boutique                   | Women's Store             | Men's Store                | Shoe Store               | Coffee Shop              | Italian Restaurant       | Mediterranean<br>Restaurant      | Art Gallery              | Design Studio                    |
| 24 | West Village          | Italian Restaurant       | New American<br>Restaurant | Cosmetics Shop            | Wine Bar                   | Gastropub                | Jazz Club                | Park                     | American Restaurant              | Bakery                   | French Restaurant                |
| 27 | Gramercy              | Italian Restaurant       | Bagel Shop                 | Cocktail Bar              | C offee Shop               | Restaurant               | Wine Shop                | American Restaurant      | Grocery Store                    | Mexican Restaurant       | Pizza Place                      |
| 29 | Financial District    | C offee Shop             | Hotel                      | Steakhouse                | Wine Shop                  | Bar                      | Gym                      | Food Truck               | Italian Restaurant               | Pizza Place              | Vegetarian / Vegan<br>Restaurant |
| 31 | Noho                  | Italian Restaurant       | French Restaurant          | Cocktail Bar              | Grocery Store              | Mexican Restaurant       | Coffee Shop              | American Restaurant      | Bookstore                        | Hotel                    | Gift Shop                        |
| 32 | Civic Center          | Gym / Fit ness Center    | Italian Restaurant         | Bakery                    | French Restaurant          | Yoga Studio              | Sporting Goods Shop      | Park                     | C offee Shop                     | Cocktail Bar             | Gym                              |
| 34 | Sutton Place          | Gym / Fit ness Center    | Italian Restaurant         | Furniture / Home<br>Store | Indian Restaurant          | Juice Bar                | Dessert Shop             | American Restaurant      | Bakery                           | Sushi Restaurant         | Beer Garden                      |
| 35 | Turtle Bay            | Italian Restaurant       | Sushi Restaurant           | Wine Bar                  | Hotel                      | Coffee Shop              | Japanese Restaurant      | Noodle House             | Park                             | Steakhouse               | French Restaurant                |
| 36 | Tudor City            | Park                     | Pizza Place                | Greek Restaurant          | Café                       | Mexican Restaurant       | Hotel                    | Dog Run                  | Deli / Bodega                    | Diner                    | Asian Restaurant                 |
| 38 | Flatiron              | Italian Restaurant       | Yoga Studio                | American Restaurant       | New American<br>Restaurant | Gym / Fitness Center     | Women's Store            | Sporting Goods Shop      | Cosmetics Shop                   | Gym                      | Clothing Store                   |

## Cluster 2 (purple color dots on map)

|    | Neighborhood           | 1st Most Common<br>Venue | 2nd Most Common<br>Venue | 3rd Most Common<br>Venue     | 4th Most Common<br>Venue | 5th Most Common<br>Venue | 6th Most Common<br>Venue | 7th Most Common<br>Venue | 8th Most Common<br>Venue | 9th Most Common<br>Venue | 10th Most Common Venue                      |
|----|------------------------|--------------------------|--------------------------|------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---|
| 1  | Chinatown              | Chinese Restaurant       | Bubble Tea Shop          | American Restaurant          | Cocktail Bar             | Vietnamese<br>Restaurant | Dim Sum Restaurant       | Hotpot Restaurant        | Salon / Barbershop       | Noodle House             | Bakery                                      |
| 8  | Upper East Side        | Italian Restaurant       | Exhibit                  | Art Gallery                  | C offee Shop             | Bakery                   | Juice Bar                | Hotel                    | French Restaurant        | Boutique                 | Gym / Fitness Center                        |
| 11 | Roosevelt Island       | Park                     | Sandwich Place           | Deli / Bodega                | Greek Restaurant         | Liquor Store             | Coffee Shop              | Gym                      | School                   | Baseball Field           | Residential Building<br>(Apartment / Condo) |
| 16 | Murray Hill            | Hotel                    | Japanese Restaurant      | Bar                          | Spa                      | Coffee Shop              | Salon / Barbershop       | French Restaurant        | Sandwich Place           | Italian Restaurant       | Gym   |
| 20 | Lower East Side        | Coffee Shop              | Café                     | Latin American<br>Restaurant | Ramen Restaurant         | Japanese Restaurant      | Sandwich Place           | Cocktail Bar             | Art Gallery              | Shoe Store               | Chinese Restaurant                          |
| 26 | Morningside<br>Heights | Coffee Shop              | Bookstore                | American Restaurant          | Food Truck               | Park                     | Tennis Court             | Deli / Bodega            | Burger Joint             | Sandwich Place           | Outdoor Sculpture                           |
| 39 | Hudson Yards           | Coffee Shop              | Italian Restaurant       | Café                         | Hotel                    | American Restaurant      | Theater                  | Gym / Fitness Center     | Restaurant               | Thai Restaurant          | Gym   |

## Cluster 3 (blue color dots on map)

|    | Neighborhood  | 1st Most Common<br>Venue | 2nd Most Common<br>Venue | 3rd Most Common<br>Venue | 4th Most Common<br>Venue | 5th Most Common<br>Venue | 6th Most Common<br>Venue | 7th Most Common<br>Venue | 8th Most Common<br>Venue | 9th Most Common<br>Venue | 10th Most Common<br>Venue |
|----|---------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------|
| 30 | Carnegie Hill | Pizza Place              | Cosmetics Shop           | C offee Shop             | Café                     | Yoga Studio              | Gym                      | Bar                      | French Restaurant        | Japanese Restaurant      | Bookstore                 |

## Cluster 4 (key lime color dots on map)

|    | Neighborhood        | 1st Most Common<br>Venue | 2nd Most Common<br>Venue | 3rd Most Common<br>Venue | 4th Most Common<br>Venue | 5th Most Common<br>Venue | 6th Most Common<br>Venue | 7th Most Common<br>Venue | 8th Most Common<br>Venue | 9th Most Common<br>Venue | 10th Most Common<br>Venue |
|----|---------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------|
| 0  | Marble Hill         | Coffee Shop              | Discount Store           | Yoga Studio              | Kids Store               | Steakhouse               | Supplement Shop          | Shopping Mall            | Shoe Store               | Tennis Stadium           | Seafood Restaurant        |
| 9  | Yorkville           | Italian Restaurant       | Gym                      | Bar                      | Coffee Shop              | Pizza Place              | Japanese Restaurant      | Sushi Restaurant         | Mexican Restaurant       | Deli / Bodega            | Spa                       |
| 25 | Manhattan<br>Valley | Coffee Shop              | Pizza Place              | Yoga Studio              | Spa                      | Szechuan Restaurant      | Mexican Restaurant       | Bar                      | Italian Restaurant       | Deli / Bodega            | Thai Restaurant           |
| 28 | Battery Park City   | Coffee Shop              | Park                     | Hotel                    | Wine Shop                | Italian Restaurant       | Burger Joint             | Cupcake Shop             | Department Store         | Plaza                    | BBQ Joint                 |

## Cluster 5 (peach color dots on map)

|    | Neighborhood       | 1st Most Common<br>Venue | 2nd Most Common<br>Venue | 3rd Most Common<br>Venue     | 4th Most Common<br>Venue | 5th Most Common<br>Venue | 6th Most Common<br>Venue | 7th Most Common<br>Venue | 8th Most Common<br>Venue | 9th Most Common<br>Venue | 10th Most Common<br>Venue |
|----|--------------------|--------------------------|--------------------------|------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------|
| 7  | East Harlem        | Mexican Restaurant       | Bakery                   | Latin American<br>Restaurant | Deli / Bodega            | Thai Restaurant          | Beer Bar                 | Liquor Store             | Grocery Store            | Coffee Shop              | Spanish Restaurant        |
| 13 | Lincoln Square     | Gym / Fitness Center     | Theater                  | Concert Hall                 | Italian Restaurant       | Plaza                    | Café                     | French Restaurant        | Park                     | Indie Movie Theater      | Performing Arts Venue     |
| 15 | Midtown            | Hotel                    | Theater                  | Steakhouse                   | Clothing Store           | C offee Shop             | American Restaurant      | Bakery                   | Food Truck               | Park                     | Bookstore                 |
| 19 | East Village       | Bar                      | Ice Cream Shop           | Wine Bar                     | Mexican Restaurant       | Cocktail Bar             | Speakeasy                | Ramen Restaurant         | Chinese Restaurant       | Pizza Place              | Korean Restaurant         |
| 21 | Tribeca            | Italian Restaurant       | American Restaurant      | Spa                          | Café                     | Park                     | Wine Bar                 | Coffee Shop              | Greek Restaurant         | Boutique                 | Gym                       |
| 22 | Little Italy       | Bakery                   | Café                     | Yoga Studio                  | Bubble Tea Shop          | Salon / Barbershop       | Sandwich Place           | Cocktail Bar             | Seafood Restaurant       | Ice Cream Shop           | Women's Store             |
| 33 | Midtown South      | Korean Restaurant        | Coffee Shop              | Cosmetics Shop               | Hotel Bar                | Japanese Restaurant      | Bakery                   | Italian Restaurant       | Gym / Fitness Center     | Cocktail Bar             | Boutique                  |
| 37 | Stuyvesant<br>Town | Bar                      | Playground               | Park                         | Basketball Court         | Pet Service              | Cocktail Bar             | Coffee Shop              | Heliport                 | Farmers Market           | Baseball Field            |