The Battle of the Neighborhoods

Finding the beast area in Manhattan to open an Italian restaurant

Author: Aurélien Robert

Introduction: Business Problem

- The objective is to help an entrepreneur to find the best place to open a new gastronomic Italian restaurant in Manhattan.
- Approach:
  1. Find zones with a certain density of restaurants
  2. Segment those zones in order to find different profiles (e.g. Asian/Chinese profile, Latin/Italian profile, TexMex...)
  3. Within each profile/segment, assess the potential of each zone (e.g. a zone being tagged as Latin/Italian with fewer Italian restaurant than average)

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Data

- Get coordinates and frontiers of Manhattan: create a grid over Manhattan area in order to define zones of the same size
- Get all restaurants of Manhattan using Foursquare API
- Keep the 20 zones with the best potential for further analysis
- Retrieve competitor rating in the chosen zones using Foursquare API

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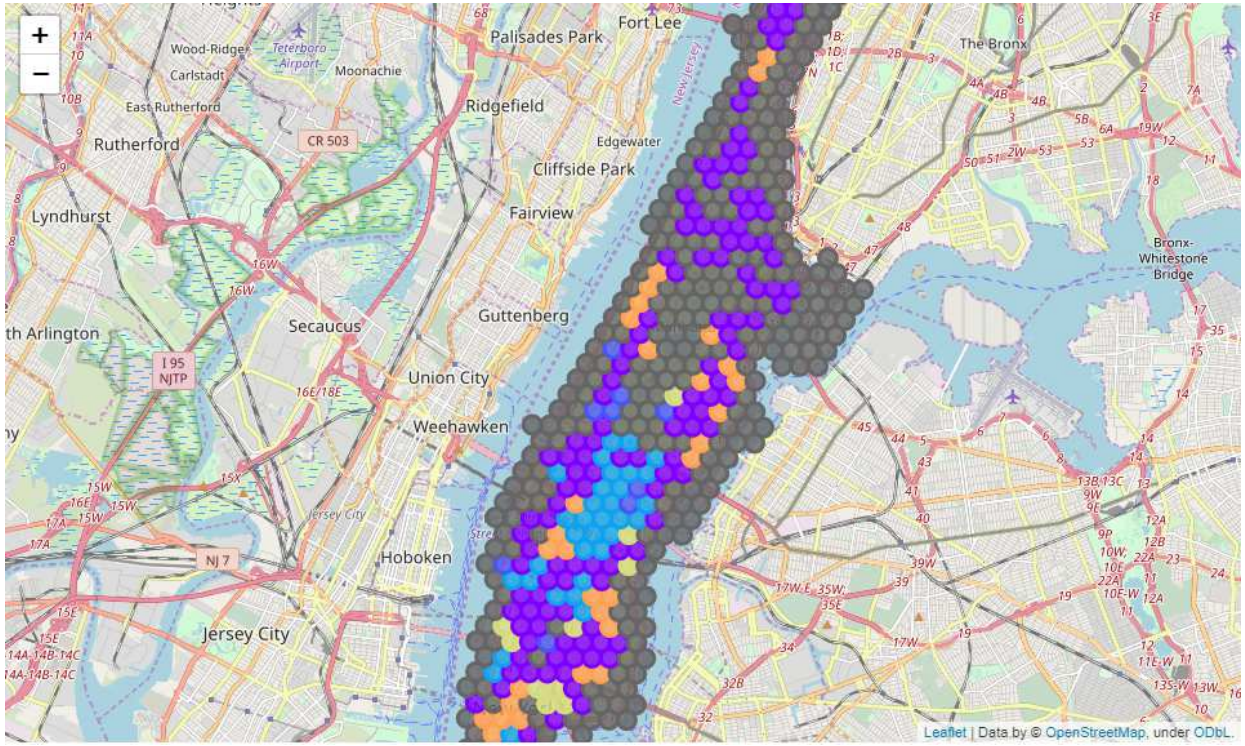
Segment zones

- Segment zones having the same restaurant density profiles



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Calculate zone potential

- Get the potential of each node/zone by calculating the distance between the density of the zone (‘New Restaurant Type’) and the one of the cluster

Node	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue	New Restaurant Type	Cluster Average Dentity
18	Sandwich Place	Mexican Restaurant	Deli / Bodega	American Restaurant	Pizza Place	Lebanese Restaurant	Salad Place	Snack Place	Fast Food Restaurant	Food	0.13636	0.16668
22	Food Truck	Pizza Place	Sandwich Place	Japanese Restaurant	Seafood Restaurant	American Restaurant	Salad Place	Mexican Restaurant	Deli / Bodega	Steakhouse	0.08696	0.08003
26	Pizza Place	Food Truck	Donut Shop	Café	Chinese Restaurant	New American Restaurant	Sandwich Place	American Restaurant	Deli / Bodega	Diner	0.21212	0.16668
27	American Restaurant	Donut Shop	Deli / Bodega	Mediterranean Restaurant	Sandwich Place	Salad Place	Italian Restaurant	Vegetarian / Vegan Restaurant	Falafel Restaurant	Pizza Place	0.08696	0.08675
28	Italian Restaurant	Restaurant	Mexican Restaurant	Café	Bistro	New American Restaurant	Sandwich Place	Seafood Restaurant	Sushi Restaurant	Hot Dog Joint	0.17143	0.14134

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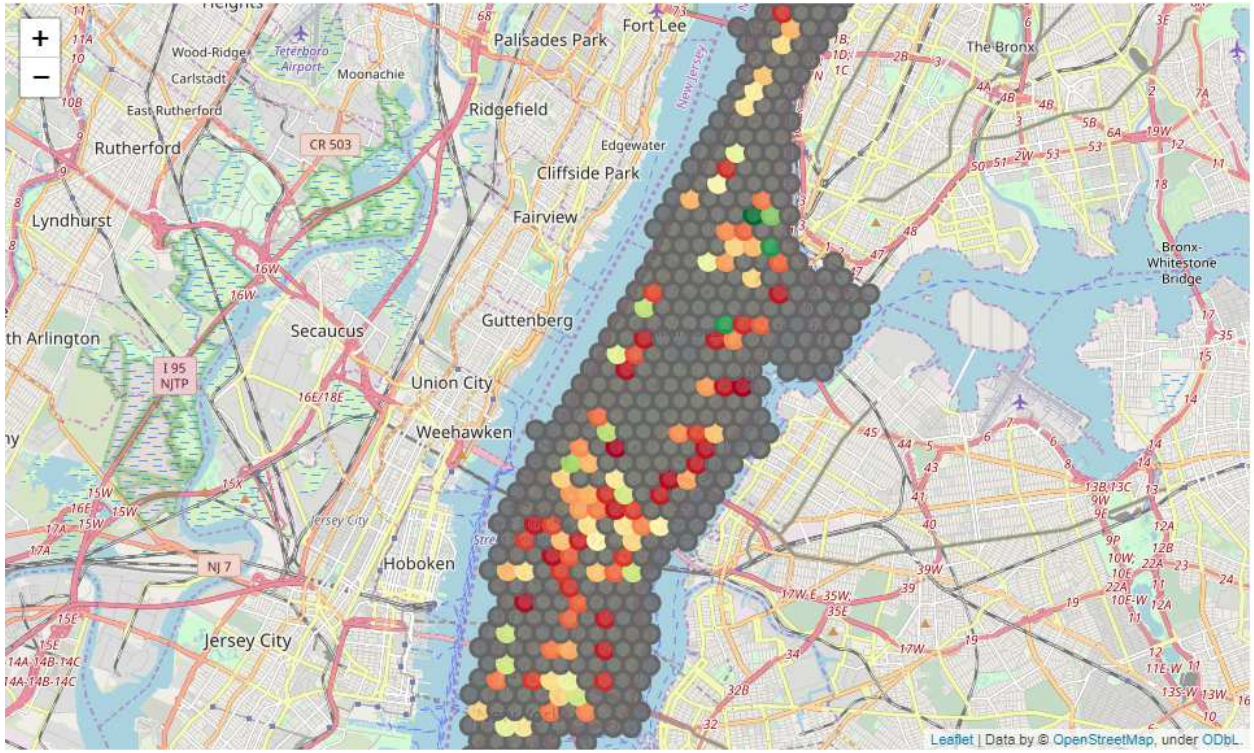
Zones with potential

- Zones with potential have been identified



High potential

Low potential

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Competitors rating

- Competitors rating of the top 20 zones

	Node	Node Latitude	Node Longitude	Venue ID	Venue	Venue Latitude	Venue Longitude	Venue Category	Node Number Venues	Rating
265	33	40.71068	-74.00945	5c6f03f30802d4002c16884c	Joe's Pizza	40.71032	-74.00769	Pizza Place	34	9.10000
275	33	40.71068	-74.00945	5447e0b2498e49ee7c7b1dc0	Da Claudio	40.71083	-74.00764	Italian Restaurant	34	8.20000
289	33	40.71068	-74.00945	59792b2403369334be043a56	Vino e Grano	40.70995	-74.01157	Italian Restaurant	34	7.40000
481	46	40.71366	-73.99283	56c3c626cd106998d2b196d0	Scarr's Pizza	40.71534	-73.99165	Pizza Place	27	9.00000
684	57	40.71676	-73.99042	56c3c626cd106998d2b196d0	Scarr's Pizza	40.71534	-73.99165	Pizza Place	37	9.00000

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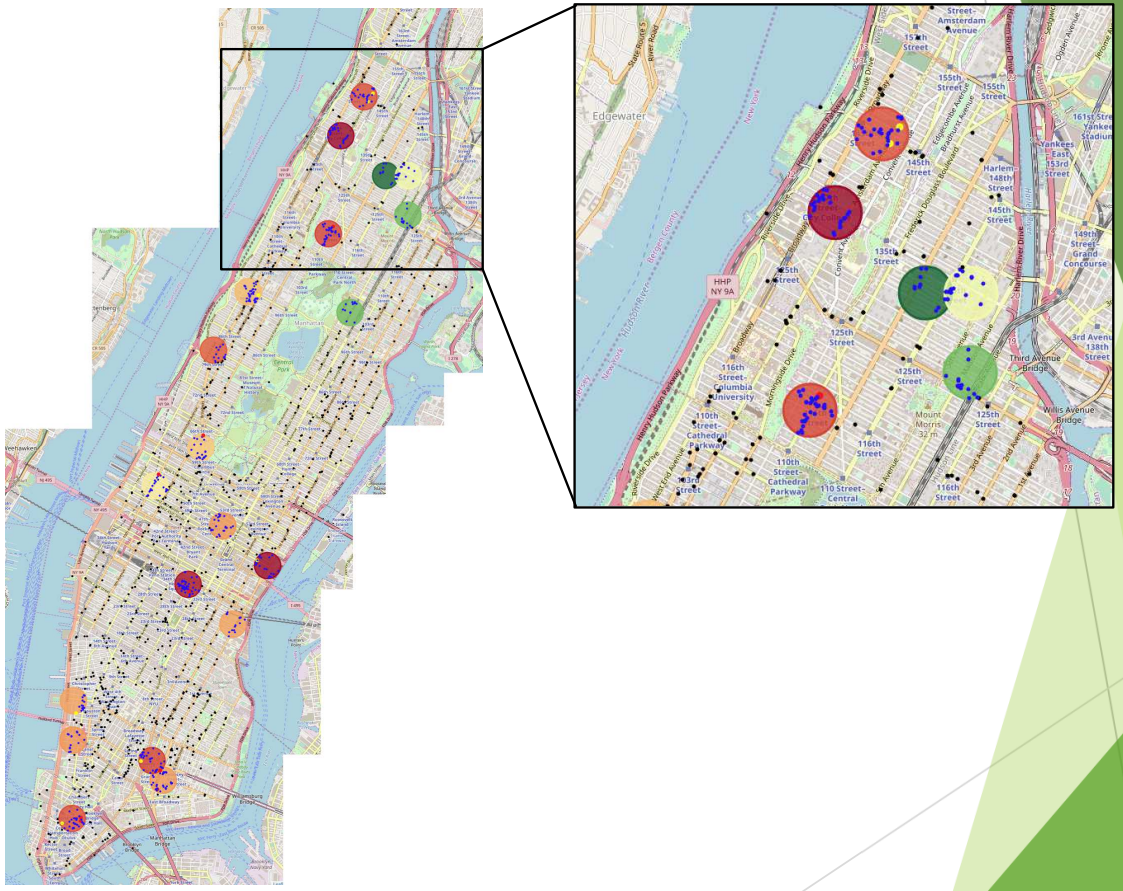
Final map

- **Top 20 zones** with highest potential are display, with a **color based on their potential**. Green is the highest potential
- **In the top 20 zones**
  - Competitors with a **good rating (>= 8)** are displayed with a **red marker**
  - Competitors with a **low rating (< 8)** are displayed with a **yellow marker**
  - **Non-italian** restaurants are displayed in **blue**
    It shows that zones are not in a no restaurant zone
- All the Italian Restaurants and Pizza Places of Manhattan (in black).



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Conclusion

- This study has given a list of 20 interesting zones for a deeper analysis.
- Best location can be chosen depending on the preferred neighborhoods and the distance from other competitors
- Additional criteria should be needed before taking the final decision, such as:
  - attractiveness of each location
  - levels of noise / proximity to major roads
  - real estate availability
  - prices
  - social and economic dynamics of every neighborhood etc.

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