

# A Guide to Milan for Tourists and Investors

Coursera

Capstone Project

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# City of Milan and Business Problem

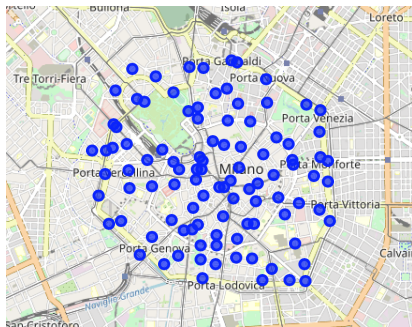
- 11 million tourists in 2019.
- Fashion sector accounts for over 1.3% of Italy's GDP, with over 40% of investments coming overseas.
- A clustering of the city center, identifying the various characteristics of the clusters (fashion cluster, nightlife cluster, touristic cluster etc...) would greatly benefit Milan's economy, ease tourism and allow for more insightful investment and location selection for upcoming businesses.



## Geospatial Data

- Geospatial data taken from the municipality official website:
  - <https://dati.comune.milano.it/dataset/ds634-numeri-civici-coordinate>
- Contains over 63,000 entries with every address in the city of Milan and geographical coordinates.
- Dataset reduced to contain only the city center (District 1), then further reduced by clustering to determine 100 evenly spread out Points of Interest (POI) in Milan city center.

	District	Postal Code	Road Name	Longitude	Latitude
0	1	20121	Bastioni DI PORTA NUOVA	9.189394	45.480053
1	1	20121	Bastioni DI PORTA VENEZIA	9.202396	45.475062
2	1	20121	Bastioni DI PORTA VOLTA	9.182029	45.479434
3	1	20121	Corso DI PORTA NUOVA	9.191710	45.475896
4	1	20121	Corso GIACOMO MATTEOTTI	9.195200	45.466907



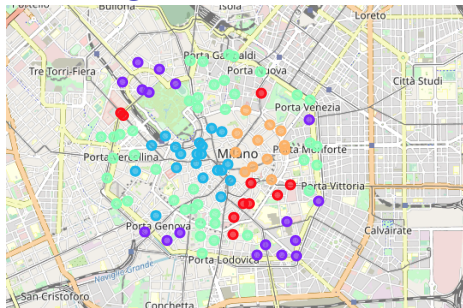
## Location Data

- The geospatial coordinates of the POIs are used as input to Foursquare:
  - <https://api.foursquare.com/v2/venues/explore>
- Returns venues for each datapoint, specifically name, location and category.
- This information is grouped and most frequent categories per POI are displayed.

	Road Name	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
0	Bastioni DI PORTA VENEZIA	Italian Restaurant	Hotel	Pizza Place	Art Gallery	African Restaurant
1	Corso DI PORTA VIGENTINA	Restaurant	Wine Bar	Pizza Place	Italian Restaurant	Bistro
2	Corso VENEZIA	Italian Restaurant	Pizza Place	Café	African Restaurant	Art Gallery
3	Corso VITTORIO EMANUELE II	Boutique	Plaza	Italian Restaurant	Sporting Goods Shop	Monument / Landmark
4	Foro BUONAPARTE	Italian Restaurant	Café	Plaza	Ice Cream Shop	Platform

# Category Clustering

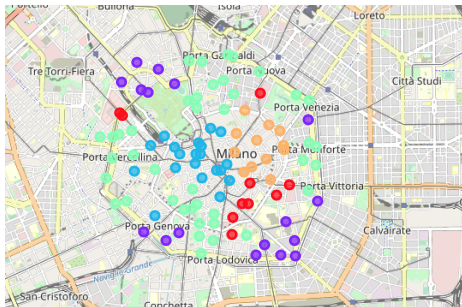
- KMeans clustering by category to observe distribution.
- Cluster colors:
  1. 0: Red
  2. 1: Purple
  3. 2: Blue
  4. 3: Green
  5. 4: Orange



Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
0	Hotel	Hotel	Plaza	Italian Restaurant	Japanese Restaurant
1	Italian Restaurant	Cocktail Bar	Pizza Place	Ice Cream Shop	Hotel
2	Italian Restaurant	Plaza	Café	Hotel	Ice Cream Shop
3	Italian Restaurant	Ice Cream Shop	Café	Café	Pizza Place
4	Boutique	Plaza	Italian Restaurant	Women's Store	Monument / Landmark

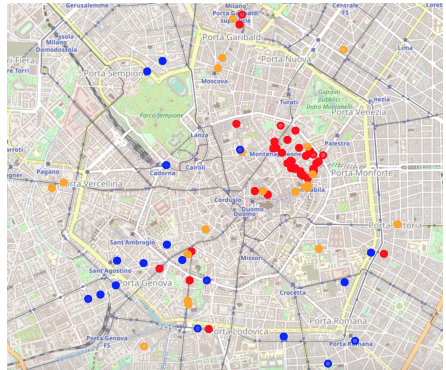
## Clustering Results and Observations

- Distinct clusters are clearly observable:
  1. Orange: Fashion district situated in the North-Eastern part of the city center.
  2. Purple: High concentration of restaurants and cocktail bars, nightlife district.
  3. Red: Touristic area.
- This allows shaping of business strategies:
  1. Orange cluster is where we expect a high concentration of shoppers, ideal to locate a boutique or clothing store and gain visibility.
  2. Purple cluster is where we expect people to hang out at night, target that are for a pub, bar or cocktail club to assure target audience is reached.
  3. Similarly the touristic attractions are located in the blue and red clusters, therefore any business that targets tourists (such as hotels or souvenir shops) must be located there.



## In-Depth Distribution Analysis

- Focusing further on the first two clusters we can plot all the clothing shops and bars/pubs in the city center.
- the distribution matches the clustering, with fashion district located in the North-East of the city center and the nightlife in the South-West.
- The luxurious boutiques (red) are located mainly in a few roads in the fashion district, the highest concentration in 'Via Montenapoleone'.
- Whereas if the business or shopping for investors or tourists respectively targets lower budget clothes (orange), these are less concentrated, primarily surrounding the boutiques neighborhood.



## Conclusion

- The project has observed the distribution of venue categories in the center of Milan, with particular attention to the fashion and bars/pubs sectors.
- The results demonstrate a clear division in the city center. This insight can help tourists visit their favourite areas as well as investors who want to open a specific business and can locate the ideal spot to be visible to their target audience.
- In depth studies have allowed to locate the precise spots for certain venue categories, for example it has been observed that almost 80% of the boutiques are located on or close to a specific road: 'Via Montenapoleone'. This is a fundamental information for investors who want to open a shop and can target a precise location to maximize the profits.