



# Battle of Neighborhoods

## Start a restaurant business in Paris

# Predicting best place where restaurant business can be started

- Paris is the capital of France and the most populous city in this country.
- Paris is also known by its culinary art and its diversity of population.
- Predicting best place where restaurant business can be started:
  - Neighborhoods in Paris,
  - Already present type of restauration in each borough (Italian, Japanese ,, etc)
  - Farmer markets that are present in each borough to have fresh ingredient for dishes.



# Data acquisition

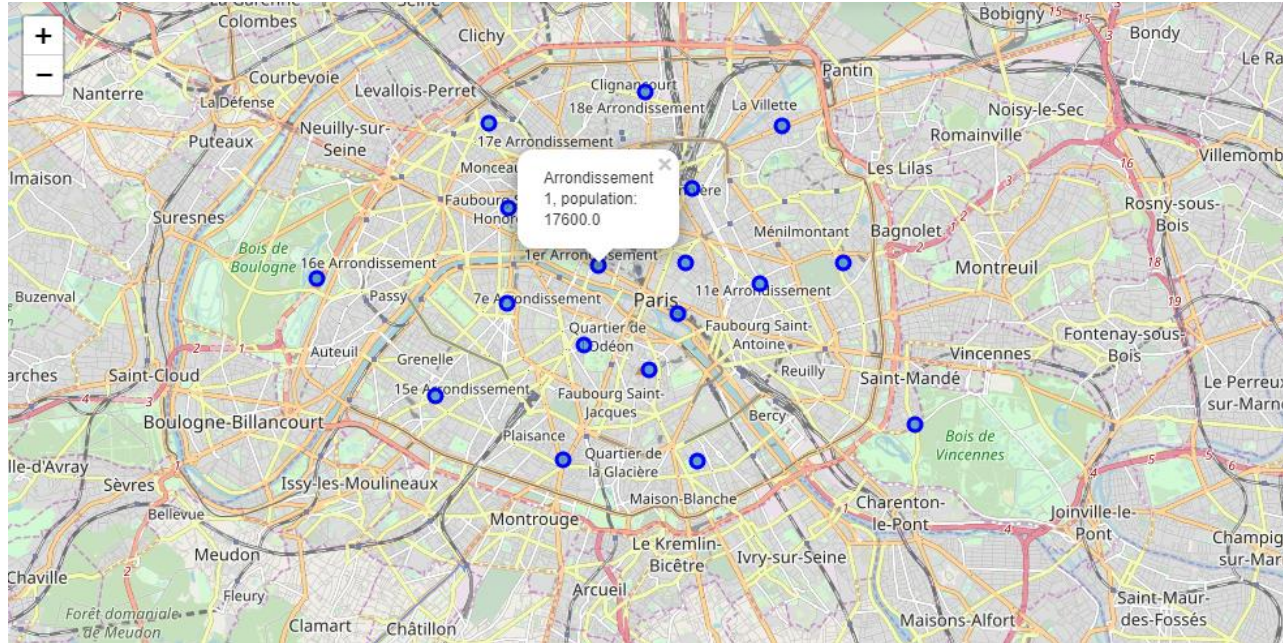
- Data concerned boroughs and neighborhoods in Paris

<https://www.data.gouv.fr/fr/datasets/r/e88c6fda-1d09-42a0-a069-606d3259114e>

[https://opendata.paris.fr/explore/dataset/quartier\\_paris/download/?format=json&timezone=Europe/Berlin](https://opendata.paris.fr/explore/dataset/quartier_paris/download/?format=json&timezone=Europe/Berlin)

- Restaurant that are present in each neighborhoods in Paris. This data will be generated by Foursquare API. Foursquare API permits to have venues that are near to a neighborhood.
- Farmer markets in Paris. [https://opendata.paris.fr/explore/dataset/marches-decouverts/table/?disjunctive.produit&disjunctive.ardt&disjunctive.jours\\_tenue&disjunctive.gestionnaire&basemap=jawg.dark&location=12,48.86175,2.33563](https://opendata.paris.fr/explore/dataset/marches-decouverts/table/?disjunctive.produit&disjunctive.ardt&disjunctive.jours_tenue&disjunctive.gestionnaire&basemap=jawg.dark&location=12,48.86175,2.33563)

# Population of each borough in Paris



Boroughs in Paris are determined by a number from 1 to 20

A map of Paris and its suburbs, centered on the 18th arrondissement. A red line, representing the 1861 railway line, runs through the city. Numerous blue dots are scattered across the map, indicating specific locations. A tooltip for Belleville, Arrondissement: 20, Postal code: 75020 is visible. The map includes labels for various districts and suburbs, such as Nanterre, Courbevoie, Levallois-Perret, Clichy, Clignancourt, La Villette, Pantin, Bobigny, Bondy, Le Raincy, Le Blanc-Mesnil, St-Denis, Noisy-le-Sec, Romainville, La Courneuve, St-Ouen, St-Pierre, St-Martin, St-Mandé, Vincennes, Fontenay-sous-Bois, Le Perreux-sur-Marne, Joinville-le-Pont, Charenton-le-Pont, Ivry-sur-Seine, Le Kremlin-Bicêtre, Arminville, Meudon, Issy-les-Moulineaux, Boulogne-Billancourt, Saint-Cloud, Auteuil, Grenelle, Passy, 7e Arrondissement, 15e Arrondissement, 17e Arrondissement, 18e Arrondissement, 19e Arrondissement, 20e Arrondissement, 1er Arrondissement, 2e Arrondissement, 3e Arrondissement, 4e Arrondissement, 5e Arrondissement, 6e Arrondissement, 7e Arrondissement, 8e Arrondissement, 9e Arrondissement, 10e Arrondissement, 11e Arrondissement, 12e Arrondissement, 13e Arrondissement, 14e Arrondissement, 15e Arrondissement, 16e Arrondissement, 17e Arrondissement, 18e Arrondissement, 19e Arrondissement, 20e Arrondissement.



## Present restaurants in Paris



This is a word cloud. A word cloud is an image composed of words used in a particular text or subject, in which the size of each word indicates its frequency or importance.

## French, Italian and Japanese restaurants are dominating Paris restauration

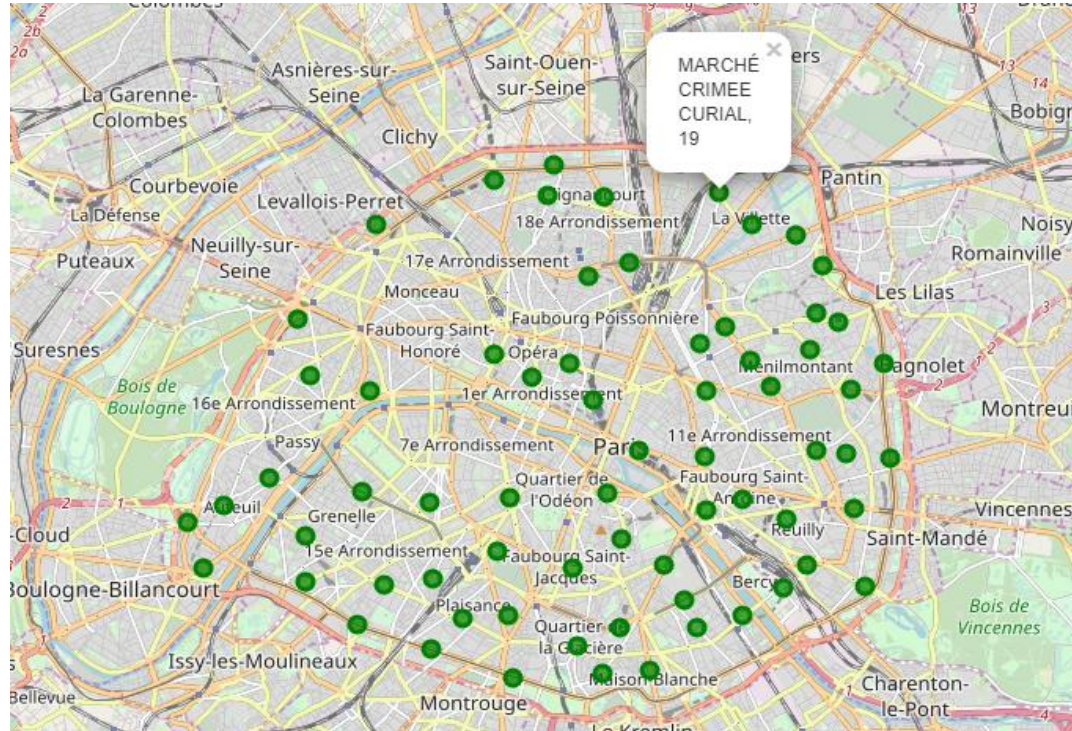
## Restaurants in Paris – Each borough

Arrondissement10



Arrondissement is Borough in French language.

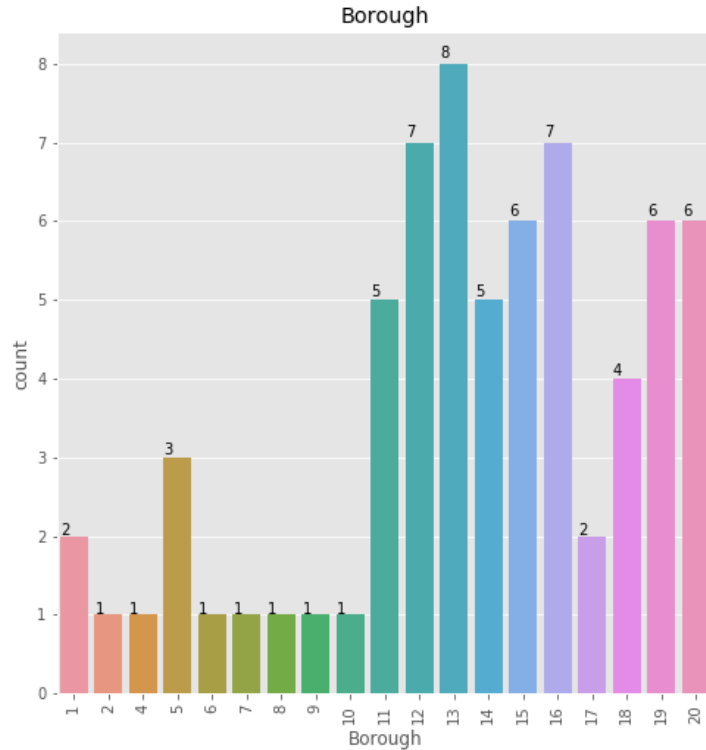
# Farmer markets in Paris



Data frame about farmer markets in Paris contains geographical localization of famer market and information as opening time, company that is managed the market and type of products that are bought in the market.

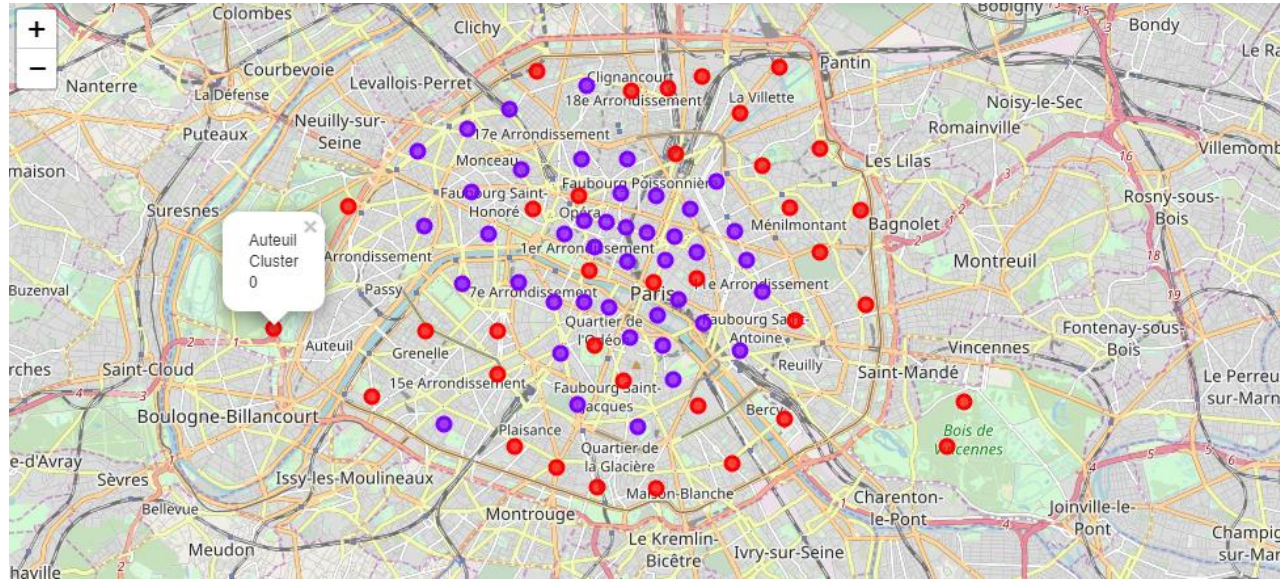


# Farmer markets in Paris



There is a total of 68 farmer markets in Paris. Highest numbers are for boroughs 13, 12 and 16. Lowest numbers are for 7 boroughs (2, 4, 6, 7, 8, 9 and 10).

# Segmentation and clustering neighborhoods using K-Mean Algorithm



- Cluster 0 is marked by red circle markers. (market is not saturated) (37 neighborhoods)
- Cluster 1 is marked by red purple markers. It is about neighborhoods where (restauration market is saturated) (43 neighborhoods)

# Conclusion and future directions

- Built model to predict where better place to start restaurant in Paris.
- 2 clusters: untapped area and saturated area.
- Ideas about future direction include:
  - Add Attractivity and events that are present in each borough to refine model
  - Try to use different other machine learning algorithm as density-based clustering.

