

The best location to open a *Frites Atelier* in Firenze, Italy

Edoardo Saldarelli

January 2021

1) Introduction

1.1 – Background:

The aim of this project is to evaluate, locate and visualize the most optimal location where to run a Frites Atelier business in the city of Firenze (*Florence*), Italy. Overall, it is difficult to find a precise definition of Frites Atelier: therefore, it is simpler to define a Frites Atelier as a peculiar kind of food service business, where products are mainly potato-based. Moreover, they differ from the usual chip stores based on a more sophisticated usage of ingredients (such as spices, herbs, flavors, sauces) as well as the potatoes quality and processing.

The city of Florence is considered as a real “battleground” for food service businesses primarily due to its popularity among tourists from all over the world, but also keeping a strong relation with the Italian food culture, enriched by the typical food tradition on the city itself.

Tourism is the main source of income for the city and it usually includes around 10 million tourists’ arrivals every year, making Florence one of the most visited cities country wide.

1.2 – Problem:

Due to the huge and mutable food service network of the city, it would be hard to determine the best location for such a particular business. However, this project has found out what and where this location could be, thanks to some Data Science techniques described in the “*IBM Data Science - Professional Certificate*” course on Coursera, mainly related to Data Analysis, Geospatial Data Visualization with Python and Foursquare API analysis.

For the sake of this project, it is essential to state below the main parameters considered to be crucial for the research:

- **Cluster division of the 5 neighborhoods of Florence, splitting neighborhoods (“*Quartieri*”) and districts (“*Circoscrizioni*”)**
- **Population divided and explored by neighborhood**
- **Number of Italian Restaurants explored by neighborhood**
- **Number of Street Food stores explored by neighborhood (such as kebab stores, chip stores and any sort of street food-oriented business)**
- **Rental prices calculated per districts and also per neighborhood**
- **Distance in KMs from the historic center of the city: the main core business of Florence**

1.3 – Data Science Strategies

I have performed various analysis on the project and the majority of them have been sorted out from a geospatial data visualization of Florence, on which the locations of each neighborhood have been found through Foursquare API together with data related to the above-mentioned

parameters. As per the next steps, data collection, analysis and cleansing have been the final processes: their evidence will support the conclusion of this project.

2) Project Development and Results

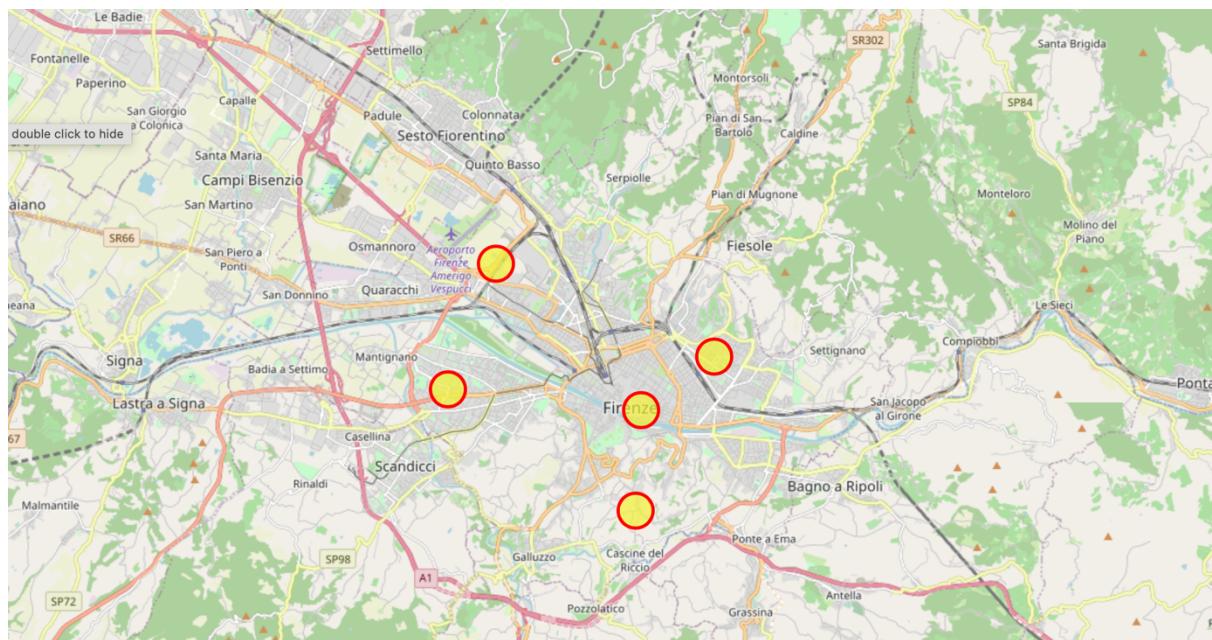
2.1 – DataFrame:

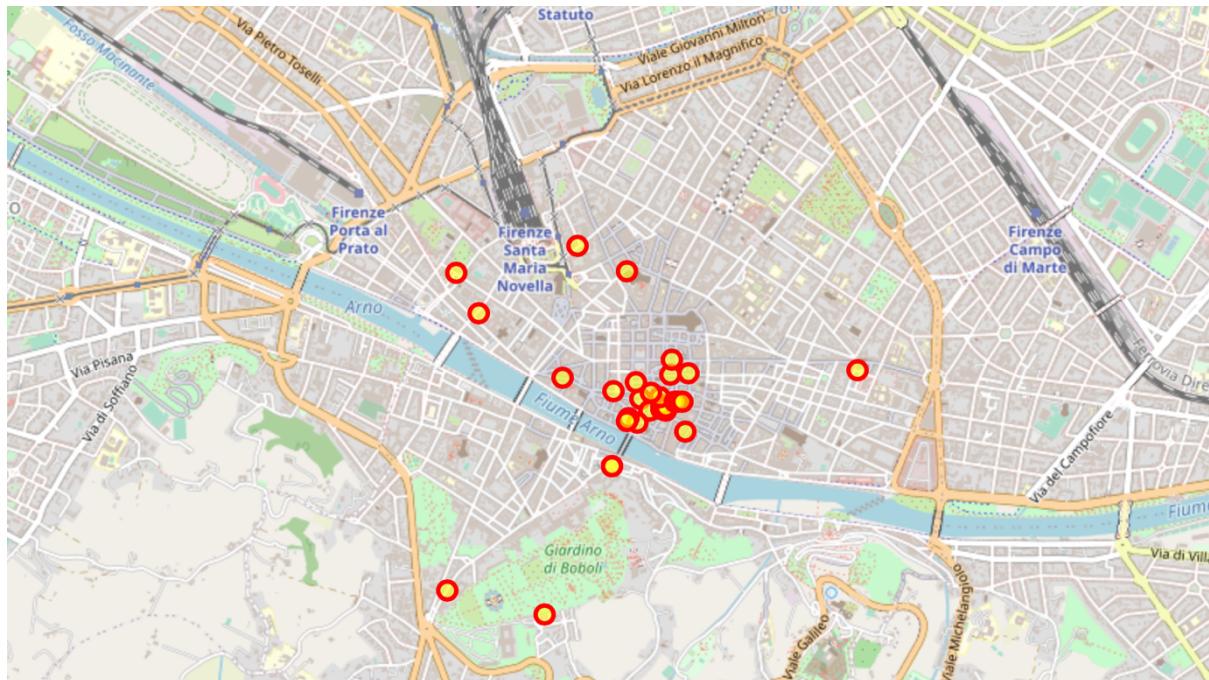
The whole project has been aligned with the numerical results found afterwards the Data Analysis of each neighborhood and their related data, therefore it has played a key role in drawing the conclusions. Below the dataframe:

	Neighborhoods	Districts	Population	Latitude	Longitude	N. of Restaurants	N. Street Food places	Average rent € m/2	Distance from the Center of Florence (km)
0	Centro Storico	Centro Storico · Il Prato · Fortezza da Basso ...	67.170	43.76941	11.25900	30	28	18.25	0.0
1	Campo di Marte	Campo di Marte · Le Cure · Viali · Bellariva ...	88.588	43.78149	11.28196	13	3	14.68	2.6
2	Gavinana-Galluzzo	Gavinana · Galluzzo · San Gaggio · Collina sud...	40.907	43.74656	11.25732	2	0	15.12	3.4
3	Isolotto-Legnaia	Isolotto · Legnaia · Argingrosso · Cintoia · I...	66.636	43.77399	11.19830	3	0	11.72	5.4
4	Rifredi	Statuto · Romito · Viali · Fortezza da Basso ...	103.761	43.80260	11.21329	16	1	14.00	6.2

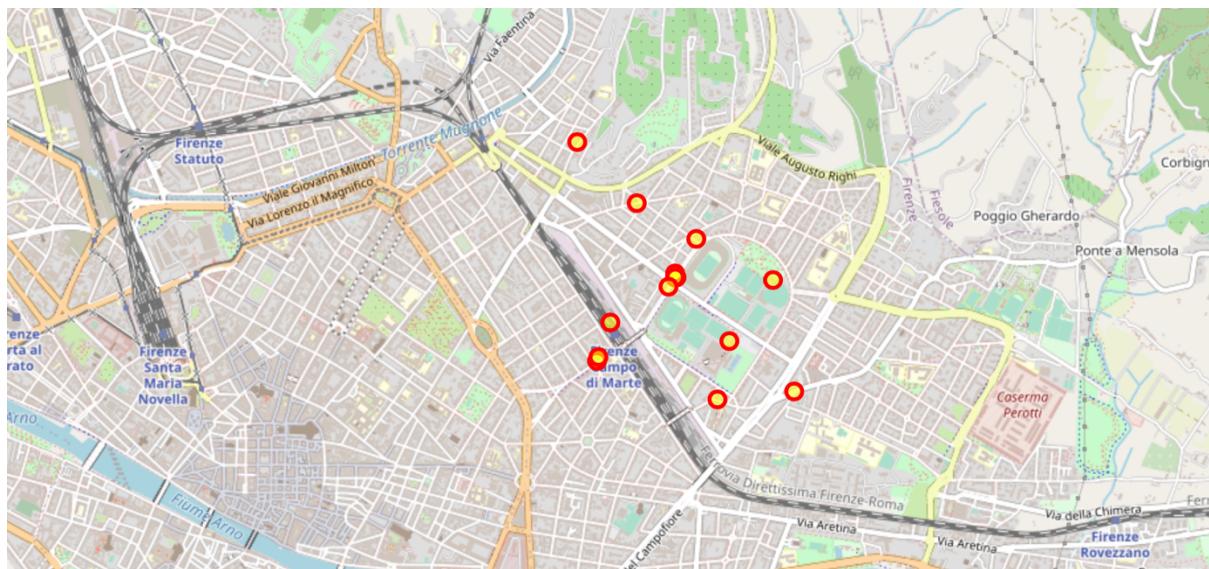
2.2 – Geospatial Visualizations:

Below it is possible to see the data retrieved through Foursquare API:

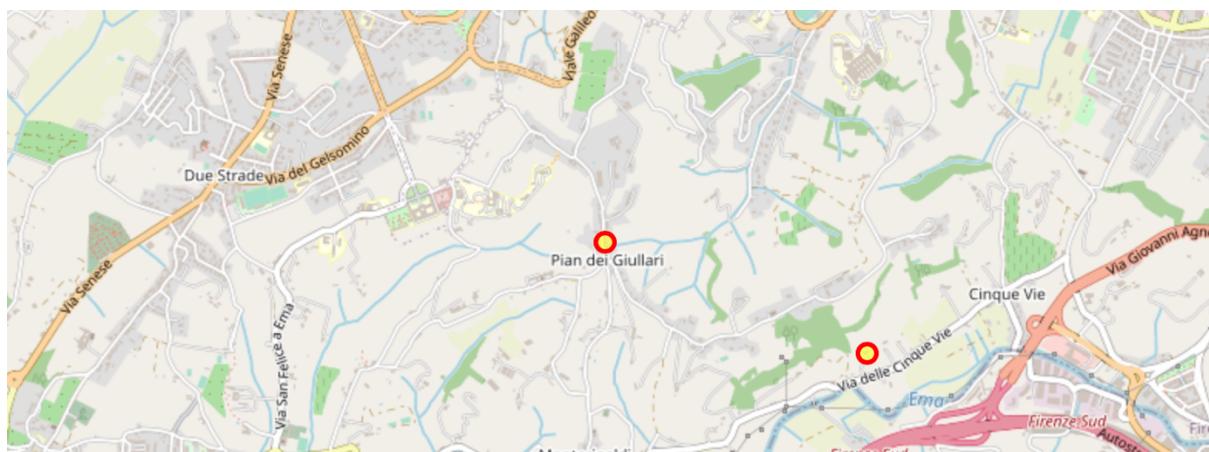




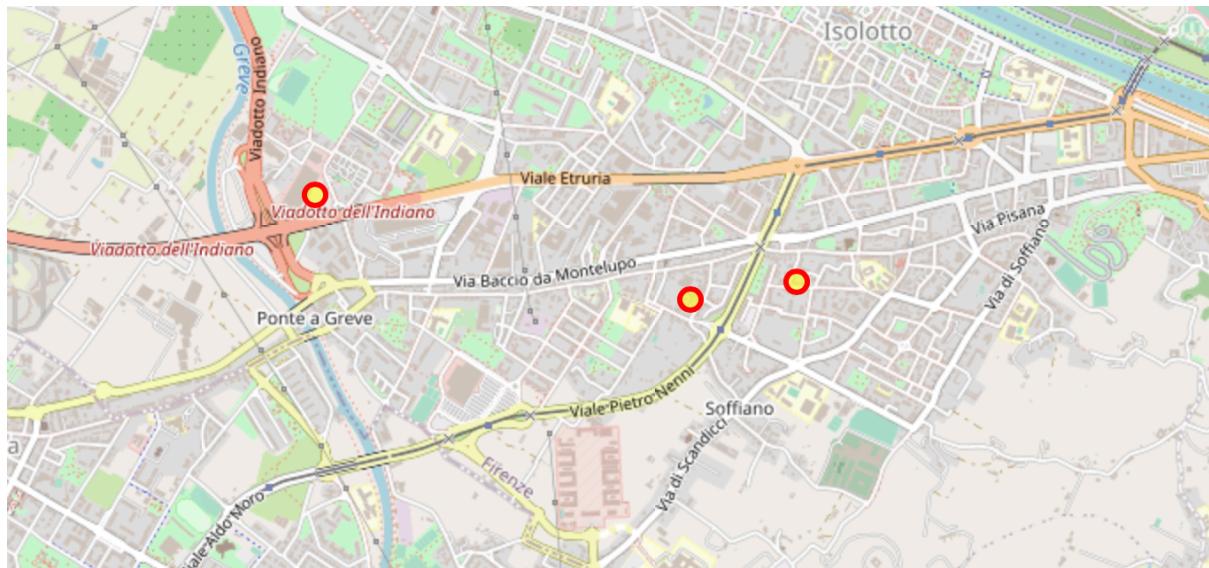
“Cluster of Italian restaurants found in Neighborhood 0 – *Centro Storico*”



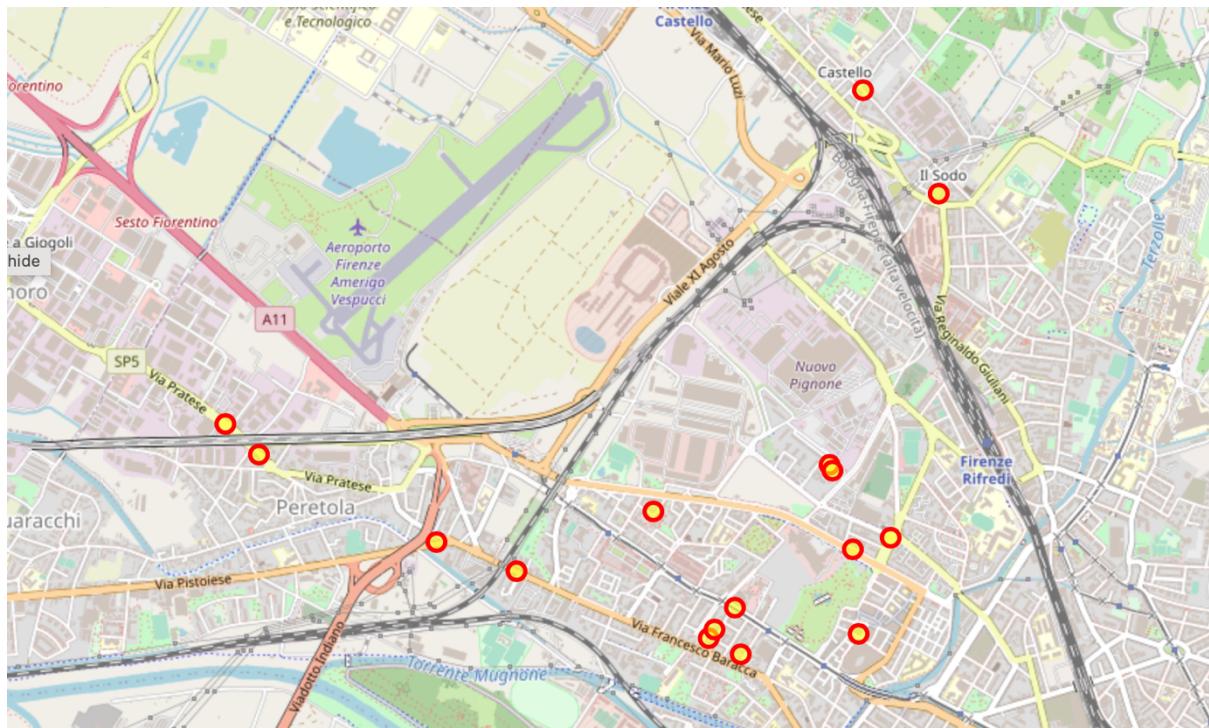
“Cluster of Italian restaurants found in Neighborhood 1 – *Campo di Marte*”



“Cluster on Italian restaurants found in Neighborhood 2 – *Gavinana-Galluzzo*”



“Cluster of Italian restaurants found in Neighborhood 3 – *Isolotto-Legnaia*”

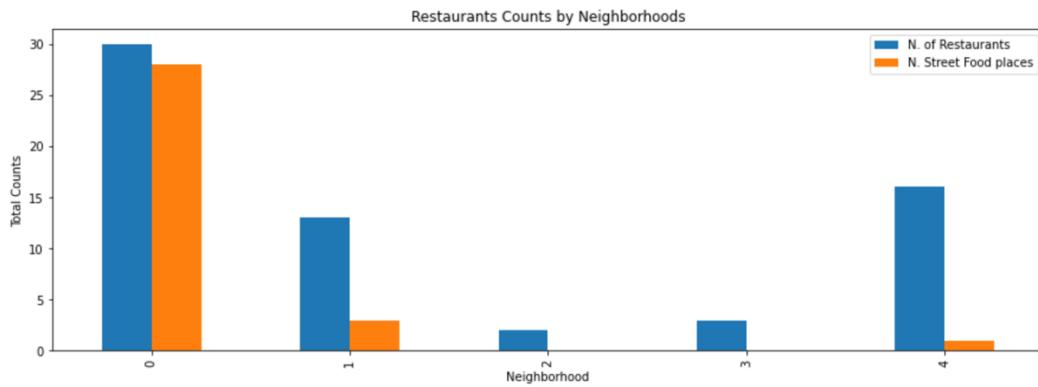


“Cluster of Italian restaurants found in Neighborhood 4 – *Rifredi*”

Following the Foursquare API analysis it is possible to observe that:

- The first Neighborhood *Centro Storico* has the highest concentration of Italian restaurants of Florence (19), with 8 additional restaurants associated with pizza and/or typical Italian food.
- The second Neighborhood *Campo di Marte* has a diversified network of restaurants with 4 Italian r., 6 restaurants associated with pizza and/or typical Italian food and 2 Seafood restaurants.
- The third Neighborhood *Gavinana-Galluzzo* has only 2 Italian restuarants.
- The fourth Neighborhood *Isolotto-Legnaia* has 1 American restaurant, 1 Bistro and 1 Italian restaurant.
- The fifth Neighborhood *Rifredi* has a diversified network of restaurants with 7 Italian r., 8 restaurants associated with pizza and/or typical Italian food and 1 Mediterrean restaurant.

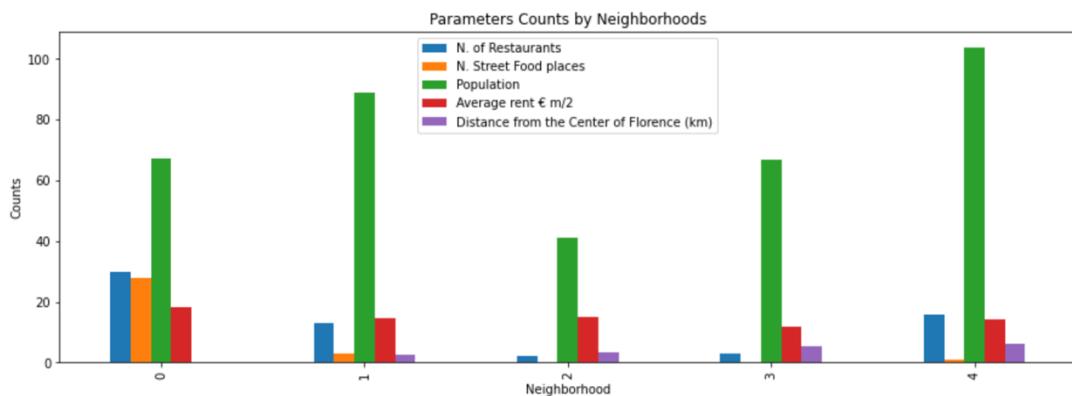
Street Food stores vs Italian restaurants count:



From the bar chart it is possible to see clearly that the total number of Street Food stores has no relevant amount for neighborhoods 1,2,3 and 4 if compared to the total number of Italian restaurants with the exception of Neighborhood 0 – *Centro Storico*, where the two amounts are almost the same. For the sake of this project, Street Food stores are being considered more competitive than Italian restaurants in the food service segment related to fries and chips distribution. Indeed, this project includes businesses like kebab stores, typical Italian street food stores, chip stores and fish and chips businesses.

It has been assumed street food stores represent the main competitor's business group, as their product range and adaptability to new changes within the food service market is remarkably more considerable for fries and frozen potato products. Additionally, this particular food service segment in Florence seems to have a great relation with potato "Sticks" cuts (*6x6mm, 7x7mm, 9x9mm, and 9x18mm Steakhouse*), which are largely distributed by street food businesses rather than Italian restaurants.

Graphical representation of the DataFrame:



3) Final observations and Conclusion

3.1 – Neighborhood 0 – *Centro Storico*:

The center of the city can be defined as the true core business of the whole city of Florence. Indeed, it has the highest rate of Italian restaurants and Street Food stores of the city, together with a remarkable population rate. However, the high rental prices for businesses and the extreme competition within the food service market would discourage the idea of starting a Frites Atelier business. Nonetheless, it is the only neighborhood for which the distance from

the center does not count, and this parameter might leave a room for running a Frites Atelier business, even if it is being counted as an essential parameter.

3.2 – Neighborhood 1 – *Campo di Marte*:

Campo di Marte has great rates taking into account its high population group, moderate rental prices, low competition given by only a few Italian restaurants and the second highest street food stores group of the city. Of course, the distance from the center could add to this neighborhood even more profits for a Frites Atelier business. Indeed, taking everything into account, Campo di Marte neighborhood can be said to be definitely a good the location for a Frites Atelier.

3.3 – Neighborhood 2 – *Gavinana-Galluzzo*:

Gavinana-Galluzzo neighborhood clearly does not show optimal data for starting a Frites Atelier business. In fact, the rental prices are quite high (despite the remarkable distance from the center of the city), the food service network has to lowest number of restaurants and street food stores of the city and the population rate is not high enough to compensate with the previous negative parameters.

3.4 – Neighborhood 3 – *Isolotto-Legnaia*:

Similarly to Neighborhood 2, Isolotto-Legnaia neighborhood does not show optimal data for a Frites Atelier business. The only difference from Neighborhood 2 is about a higher population rate, a longer distance from the center of the city and the lowest rental price average of the city. Overall, the neighborhood does not seem to be a good place for a Frites Atelier business.

3.5 – Neighborhood 4 – *Rifredi*:

According to this project, Rifredi neighborhood is the best location to open a Frites Atelier business in Florence. Indeed, its high population rate (the highest of the city), moderate rental price average, low competition due to a low number of street food stores and a moderate number of Italian restaurants. Despite being the most far neighborhood from the center, Rifredi has numerous amenities and venues such as cinemas, one of the biggest market square of the city, some university buildings and school and the Municipality palace of the Florence. Therefore, Rifredi neighborhood fully matches with the requirements of the project's scope, given the processed data represented.