

The Battle of Neighborhoods

Coursera Capstone Project

This project is part of the Coursera IBM Data Science Professional Certificate and aims to use the concepts and techniques learnt throughout the course. This report will present the different steps of the project starting from the definition of the business problem and the inventory of the data sets necessary for the analysis. Then, we will detail the data preparation process and the findings of the exploratory data analysis. Finally, after presenting the results, we will provide a conclusion to the initial problem.

Introduction/Business problem

Paris is the capital and the most populous city of France with an estimated population of 2,175,601 residents¹. It is a major center of finance, commerce, science, arts also renowned for its fashion and fine cuisine. The city is also one of the most touristic in the world attracting more than 38 million visitors in 2019. Being a hub of large companies with plenty of job opportunities, and a bustling city with an active cultural life, many are considering to relocate to Paris. However, relocating can be challenging: finding the right location according to personal preferences while keeping the housing costs acceptable in a competitive market can quickly become a difficult task.

We will try to find the most suitable location for a professional starting his career in a bank situated in La Defense, the business district of Paris. Our newcomer has the following conditions:

- Living in Paris “intra-muros” (within the boundaries of Paris, i.e. excluding suburbs)
- Proximity to grocery stores, accessible within a walking distance
- Large offering of bars, coffee shops and restaurants to socialize and dine out with friends
- Keeping the rent below 30 €/m²

Data section

For this project, we will use the following data sets:

1. Paris “arrondissements” (neighborhoods)

Data source: <https://www.data.gouv.fr/fr/datasets/r/0d3553c6-45c0-4b16-82be-5ef314437d3e>

Description: Contains the neighborhoods along with their area, latitude and longitude.

2. Grocery stores, bars, restaurants and coffee shops location

Data Source: Foursquare API

Description: The API will be used to retrieve the venues.

3. Reference rents

Data source: <https://www.data.gouv.fr/fr/datasets/r/d72d537a-2f7f-40af-bf1a-289ee25d5ae9>

Description: Contains the reference rent per neighborhood, type of rental (furnished or not), number of rooms and construction date.

¹ Source: Wikipedia