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Analysis of the location of restaurants and eating places in Paris

A Capstone project

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1 Introduction

Paris has about 2.2 million inhabitants for a surface area of 105 km², reaching a density of 20,754 inhabitants per km². Which is a lot, comparing to other cities like New York (10,716.36/km²) or Tokyo (6,373 inhabitants/km²). Not for nothing is it one of the densest cities in Europe.

With such a high population density, one can imagine that there is also a very large number of restaurants in a small area. For those who are interested, it may therefore be difficult to decide on a location to open a new eating place in Paris.

With this in mind, the objective of this project is to find an optimal location for a stakeholder interested in opening a eating place (restaurant, café, fast food, etc.) in Paris and also to find out which categories of eating places are the most common in Paris and where they are located.

In order to do this analysis, we will use data science and machine learning techniques to decide the best spots and the restaurants to avoid if the investor wants to open a new business.

2 Data description

The data used in the project were taken from the following sources:

- The coordinates of the borders of Paris were obtained from the "Paris Data" website [1]. A geojson file containing the coordinates of the edges of Paris has been downloaded from this website to avoid taking information from outside Paris.
- The informations about the coordinates systems used in the coordinate conversion functions were obtained from the open-source epsg.io web service [2].
- The data on eating places (addresses, coordinates, name of the establishment, etc.) was obtained from the Foursquare API [3].
- The latitude and longitude of Paris center were retrieved using Nominatim API [4].

References

- [1] "Paris Data" webstie - Arrondissements :
<https://opendata.paris.fr/explore/dataset/arrondissements/>
- [2] Klokan Technologies' open-source web service : <https://epsg.io/>
- [3] Foursquare API : <https://developer.foursquare.com/>
- [4] Nominatim API : <https://nominatim.org/>