Feasibility of Indian or Italian style Restaurant in Clermont-Ferrand, France

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1. Introduction: Business Problem

1.1 Background

Clermont-Ferrand is a university city in central France, bordered by the volcanic Chaîne des Puys mountains. Near the fountains and statues of Place de Jaude square are the Gothic Notre-Dame-de-l'Assomption Cathedral, constructed from lava stone, and the Romanesque Basilica of Notre-Dame du Port, with mosaics.

It's metropolitan area has a population of 467178 as of census of 2011.

Clermont-Ferrand hosts the [Clermont-Ferrand International Short Film Festival](#) (Festival du Court-Métrage de Clermont-Ferrand), one of the world's leading international festivals for short films. It is also home to the corporate headquarters of [Michelin](#), the global tyre company founded there more than 100 years ago. Clermont-Ferrand's most famous public square is the Place de Jaude with the statue of Vercingetorix in the centre. Because of its various universities and also HQ of the global company Michelin the city has a sizeable population of expats. The city centre is bustling with its number of galleries, café's, bakeries and restaurants.

1.2 Problem

In this project we will try to find an optimal location for a restaurant. The choice of the type of restaurant would be an Indian or Italian cuisine restaurant

Since there are a sizeable number of restaurants in the city of Clermont-Ferrand, we will try to detect locations that are not already crowded with restaurants.

We are also particularly interested in areas with no Italian or Indian restaurants in vicinity. However, we would also prefer locations as close to city centre as possible, assuming that first two conditions are met.

We will use the data science tools and methods to explore and generate a few most promising neighbourhoods based on these criteria.

Advantages of each area will then be clearly expressed so that best possible final location can be chosen by stakeholders.

1.3 Interest

Specifically, this report will be targeted to stakeholders interested in the restaurant in Clermont Ferrand, France.

2. Data

2.1 Data Sources

We decided to use regularly spaced grid of locations, centred around city centre, to define our neighbourhoods.

Following data sources will be needed to extract/generate the required information:

1. Coordinate of Clermont Ferrand city centre will be obtained using **geopy library** of well-known Clermont Ferrand location, Place de Jaude.
2. Centres of candidate areas will be generated algorithmically and approximate addresses of centres of those areas will be obtained using **geopy library**
3. Number of restaurants and their type and location in every neighbourhood will be obtained using **Foursquare API**

Based on definition of our problem, factors that will influence our decision are:

- Number of existing restaurants in the neighbourhood (any type of restaurant)
- Number of and distance to our choice of restaurants in the neighbourhood, if any
- Distance of neighbourhood from city centre