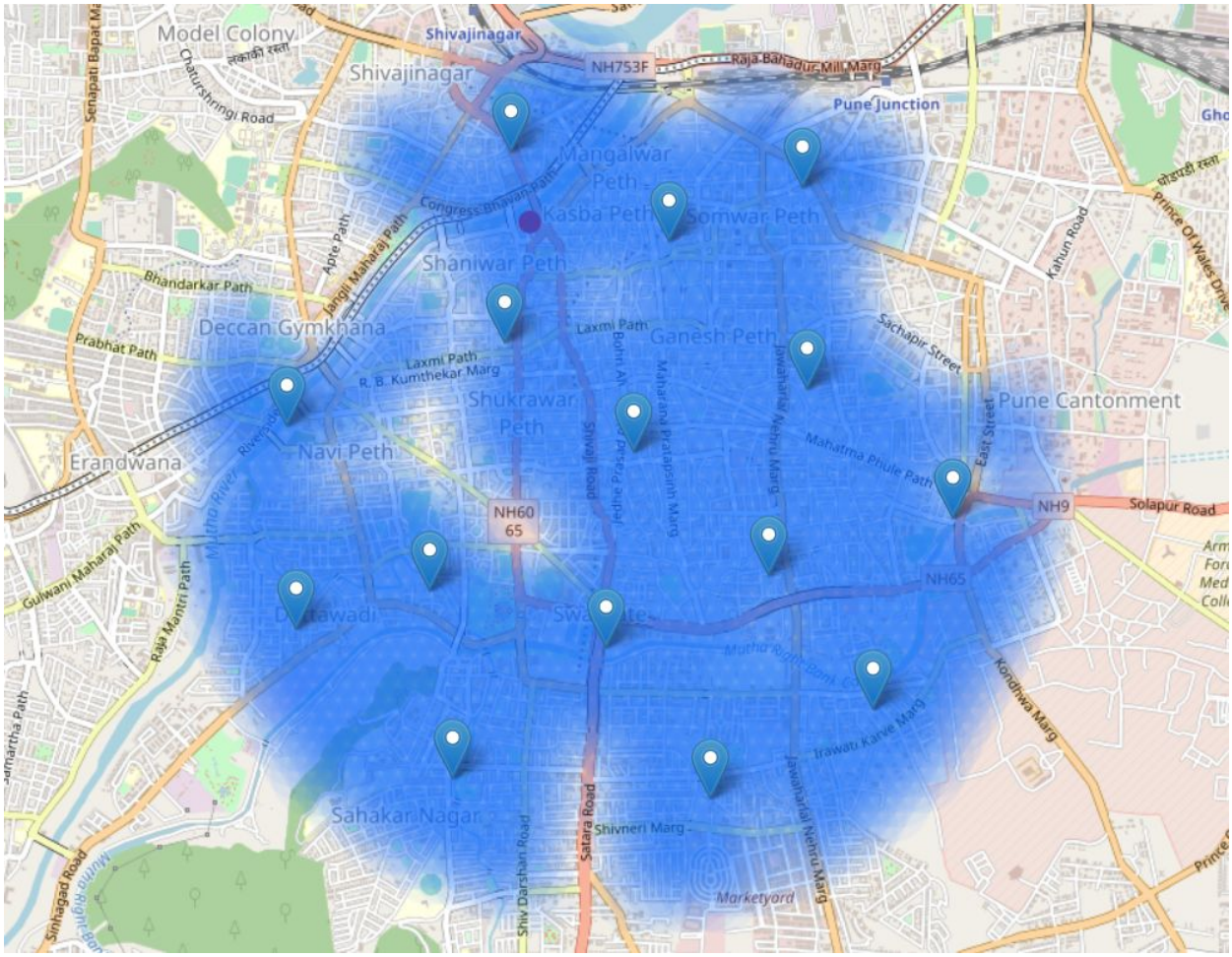

The Battle of Neighborhoods

Applied Data Science Capstone Project

18.03.2020

Kunal Gauraw

Table of Contents

Introduction

In this project we will try to find an optimal location for a restaurant. Specifically, this report will be targeted to stakeholders interested in opening an Italian restaurant in Pune, India.

Business Problem

There are lots of restaurants in Pune. We will try to detect locations that are not already crowded with restaurants. We are also particularly interested in areas with no Italian restaurants in vicinity. We would also prefer locations as close to the city center as possible, assuming that the first two conditions are met.

We will use our data science powers to generate a few most promising neighborhoods based on this criteria. Advantages of each area will then be clearly expressed so that best possible final location can be chosen by stakeholders.

Data

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

1. number of existing restaurants in the neighborhood (any type of restaurant)
2. number of and distance to Italian restaurants in the neighborhood, if any
3. distance of neighborhood from city center

We decided to use a regularly spaced grid of locations, centered around the city center, to define our neighborhoods.

Data Source

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

- **Centers of candidate areas** will be generated algorithmically and approximate addresses of centers of those areas will be obtained using the GeoPy python library.
- **Number of restaurants and their type and location in every neighborhood** will be obtained using **Foursquare API**
- **Coordinate of Pune center** will be obtained using GeoPy python library.

Methodology

Results

Discussion

Conclusion