

The Battle of Neighborhoods

Where to go for Pizza?

IBM Data Science Professional Certificate on Coursera

Introduction/Business Problem

Let's say a tourist or a citizen wants to have some pizza. The good idea can be to go to a place where several options of Pizza places are located. The goal of this project is to analyze Pizza restaurants in Moscow and Saint-Petersburg, two biggest cities in Russia, and propose places to go for pizza-seekers.

Target audience: People who want to find a place where different Pizza places can be found nearby.

Data

The FourSquare API will be used to collect data about locations of Pizza restaurants in 2 major cities in Russia – Moscow and Saint-Petersburg.

Methodology

The main goal in this analysis is to define a place where Pizza restaurants show the highest density.

The Four Square API will be used to get venues in the cities.

CategoryID (4bf58dd8d48988d1ca941735) will be set to show only Pizza places. Unfortunately, Foursquare limits observations to maximum of 100 venues per query.

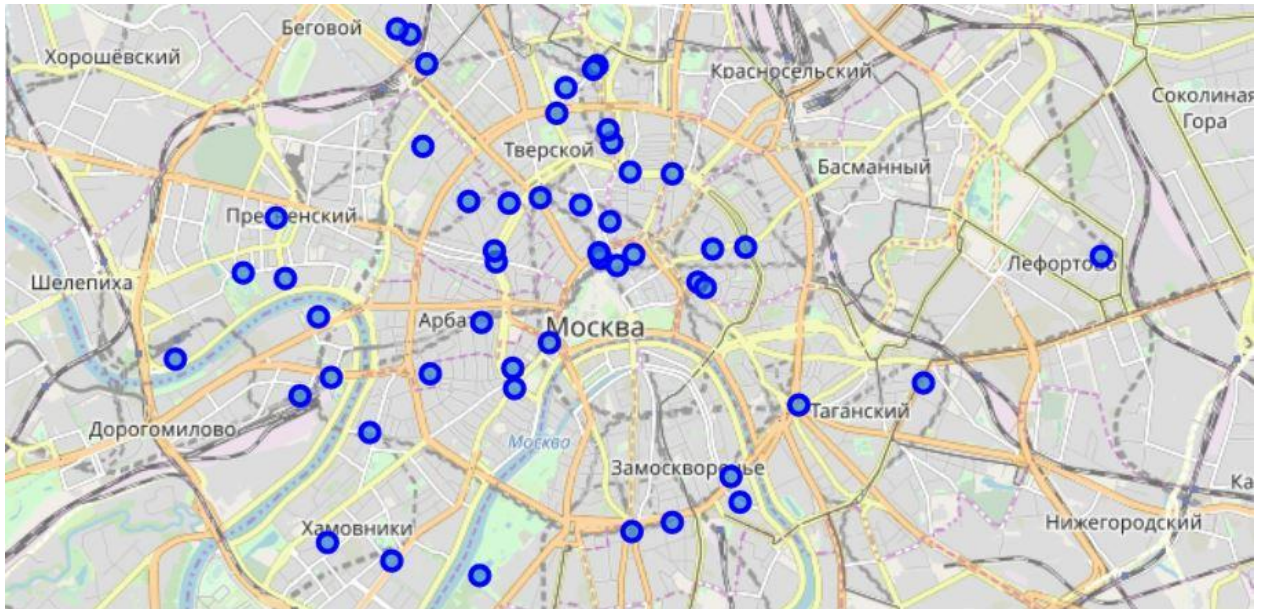
This request will be repeated for the both studied cities. Then we get top 100 venues, save them and plot them on the map for visual representation.

Next, to get an indicator of the density of Pizza Places, I calculate a centroid of the venues to get the mean longitude and latitude values. Then the mean of the Euclidean distance is calculated from each venue to the mean coordinates. This indicator will be used for evaluation.

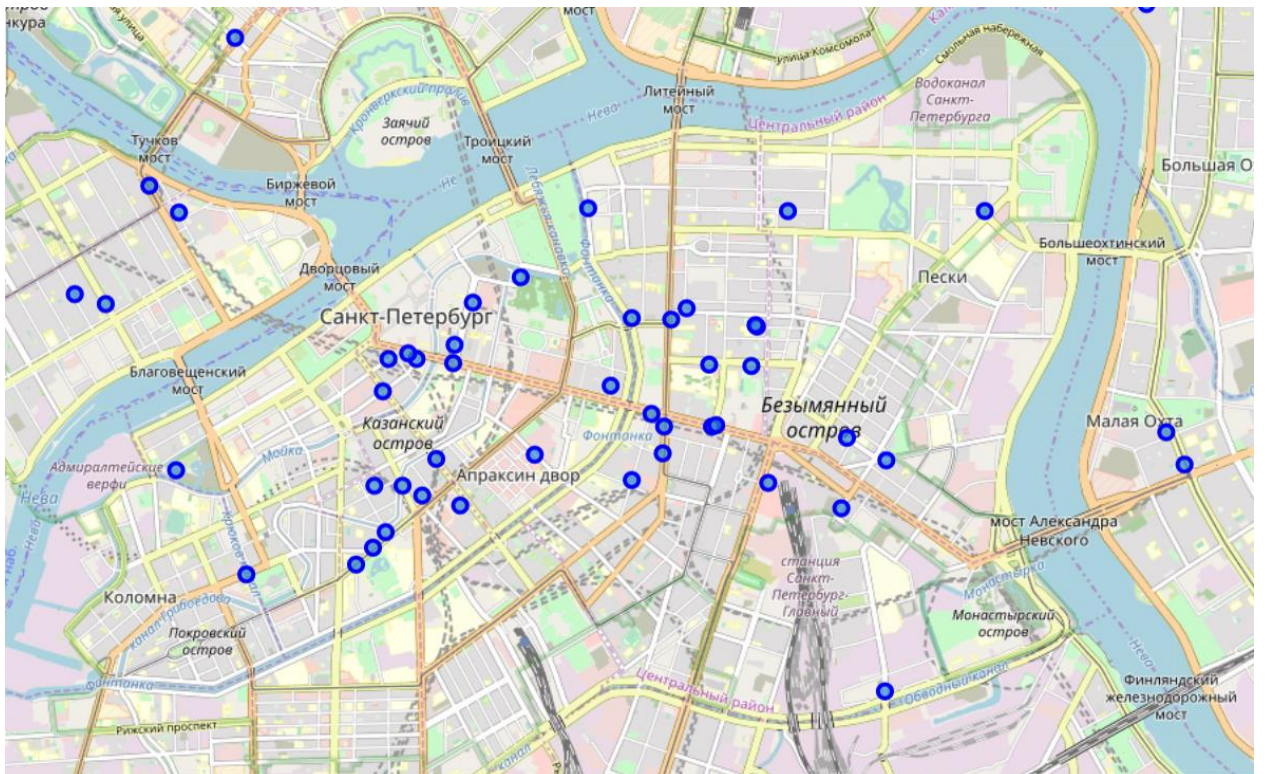
Results

We can see that there are plenty of Pizza places in the both cities (more than 100). Geoplots that were generated by Folium are presented below.

Moscow:



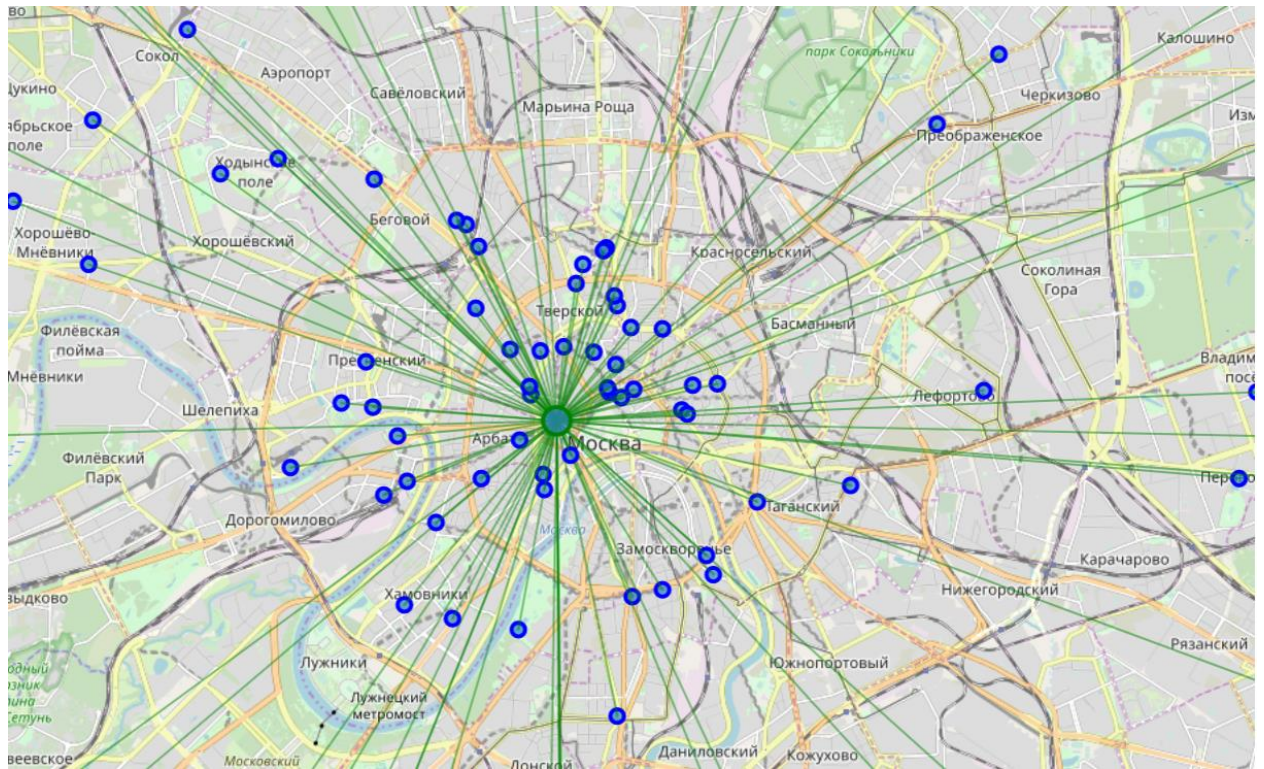
Saint-Petersburg:



From the first sight on the map it's difficult to state which city has higher density of Pizza places. For further analysis mean coordinate and mean distance to mean coordinate will be calculated. It will allow us to define a place from which a way to different Pizza places is the shortest. This place will be highlighted by blue circle, distances – by green lines.

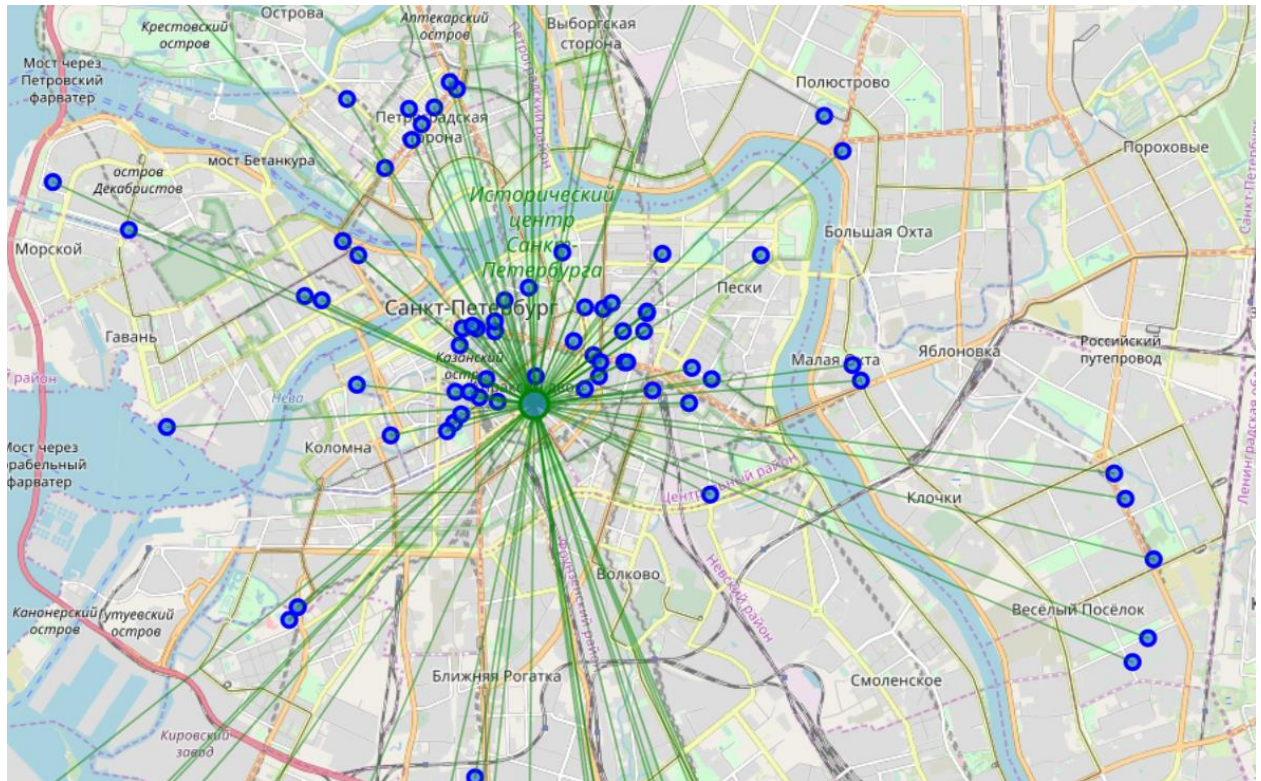
Moscow:

Mean Distance to Mean coordinates: 0.0907



Saint-Petersburg:

Mean Distance to Mean coordinates: 0.0644



Conclusion

Now we can conclude that Moscow is better city for Pizza lovers because people can experience higher density in places that they can choose.