

Searching for suitable places to open a bakery

Vladimir Kovalev

February 1, 2020

Abstract

This research will be useful for people who wants to open a bakery "Cinnabon" in Vladivostok city.

Introduction

Criteria of better placement are described in their official web-site. General criteria of better place to open a bakery are opening into major malls, cinema, the first floor of malls, next to the entrance, first line of houses next to parking which not than 20 meters from.

Data

Necessary data for this research are placement and area of parking, buildings, roads and data about land resources.

Methodology

There is using **Foursquare API** for taking data about mall and cinema in Vladivostok, using library **folium** for visualize coordinates of found places. Also, there is using data from Open Street Map, which are prepared to analyse with **Mapshaper**. In this research I was cleaning the data, was doing logic slices over the data, joining the data, using **geopandas** library for solve hardest problem of the research - find the buildings with nearing parking and with nearing roads having intensive traffic.

Result

There are found 10 places suitable to open bakeries there, which have enough the closeness to road and parking.

Discuss

During the analyse I've faced two difficulties:

- not enough computational power for such as this analyse;
- not enough accuracy of Foursquare API, the response set of venues is badly corresponding to request.

I recommend trying to reduce complexity of the problem by any possible way. Using fast algorithms such as binary search, using different order of analyse and handing data. Some times I felt this research is impossible to finish, but on the next day I tried another way to solve problem and finally I found it.

Conclusion

In Vladivostok city is enough places useful for opening bakehouse such as "Cinnabon".