

Coursera Capstone Project
The Battle of Neighborhoods

Madiun Café

by:

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Abstract

For this project, I am trying to estimate a good location for a new coffe shop in Madiun using machine learning.

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1 Introduction

I am looking to open a cafe in Madiun City, the question is, where is the best location for open new cafe? The background of the problem it is not worth setting up a cafe in the close promixity of existing ones. because the location of the new cafe has a significant impact on the expected returns.

Let's also make sure that **audience is explicitly defined** to be the local restaurant entrepreuners in Madiun City and **they should care about this problem** because the location of the new café has a significant impact on the expected returns.

2 Data

A description of the data: the data used to solve this problem is geolocation data collected from [FourSquare](#). Data is a single tabel, containing location of the existing cafe. **Explanation** of the location data are column (lat, lng), where lat stands for latitude and lng for longitude. After we analyze and process the data we combining the result of proximity analysis with sum of population each district to determine best location to open a new café. **Example** of the data is on table 2.1:

Table 2.1 Example of Data

Name	Shortname	Latitude	Londitude
Markas Kopi	Coffee Shop	-7.648215	111.530610
Cafe Latté	Coffee Shop	-7.635934	111.519315
Coffee Toffee	Coffee Shop	-7.622158	111.536357

3 Methodology

We use Heatmap-based kernel density estimation. Heatmap was already implemented as plugin for Folium, which we used to visualize data to map. Visualization is shown in figure 3.1

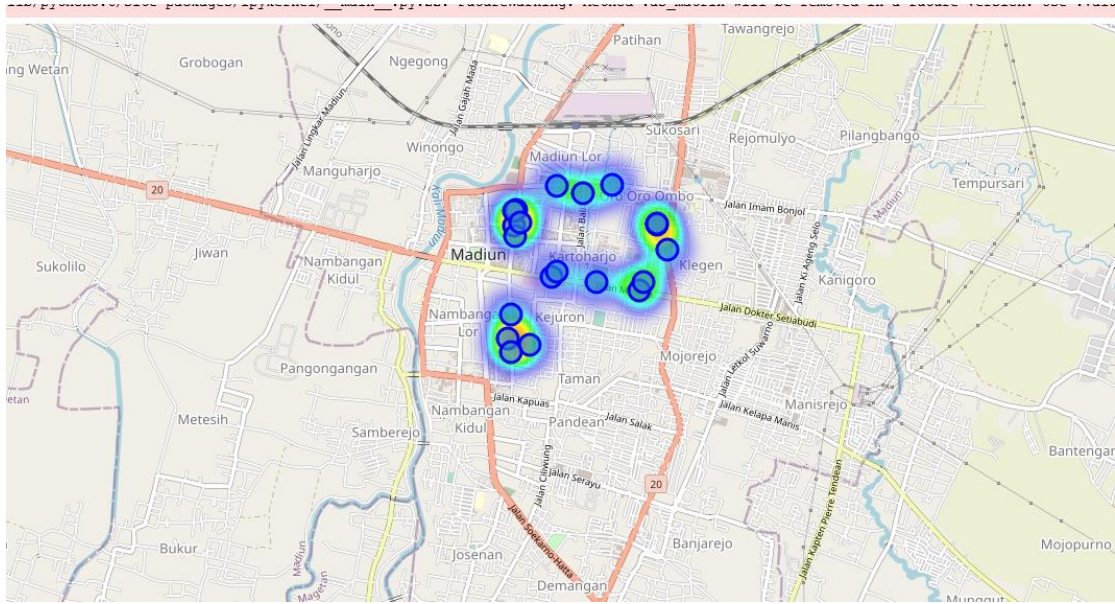


Figure 3.1 Data visualized to the map of Madiun, heatmap-based kernel

4 Results

Based on the preliminary results, one possibly good location for new Cafe is on Tulus Bakti Street, because it is not in close proximity with other cafe, and located near school and at densest population region in madiun. shown in figure 4.1

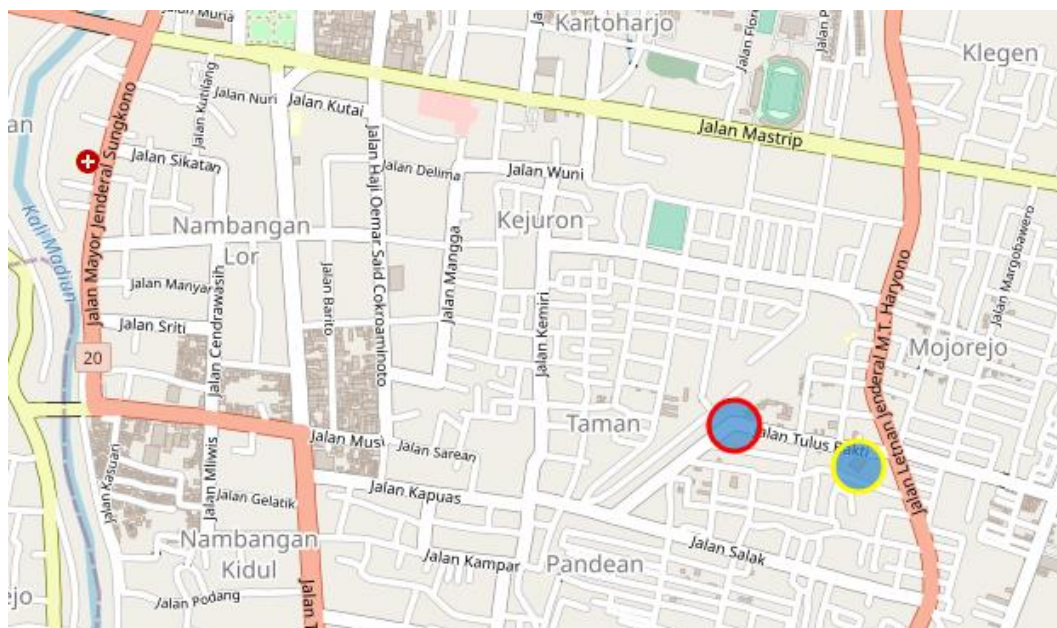


Figure 4.2 Proposed location on red point

5 Discussion

Before starting a business, some further data analysis of the best location of coffee shop must be done.

6 Conclusion

The Best location for a new coffee shop in Madiun was estimated based on data from FourSquare and BPS data is on Tulus Bakti Street.