

JUNE, 2019

Identifying candidate locations for a new Chinese food restaurant in the Washington DC metro

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Coursera Capstone

Background

The restaurant industry is extremely competitive. According to a study by Ohio University, of restaurants that fail about 65% fail within the first year and 80% fail within 5 years. Therefore, chefs who are interested in establishing a new restaurant should make use of all of the data available to make an informed decision of where to establish a new restaurant.

For this case study, we will focus on Washington DC and use a data-driven approach to identify high opportunity areas to establish a new Chinese food restaurant based on supply of currently available restaurants.

Question

Where should a chef open up a new Chinese food restaurant in the Washington DC area based on the current supply of similar restaurants?

Audience

Chefs and or prospective restaurant owners who are interested in opening up a restaurant in Washington DC

Why do they care

Chinese restaurants are common restaurants across Washington DC. Where should a chef who is interested in opening up a new Chinese restaurant open one based on the **current supply of existing restaurants?**

Approach and Data

Approach

The goal of this analysis is to determine the supply and locations of Chinese restaurants in 4 different areas in Washington DC. Areas with low number of restaurants may represent strong opportunities to establish a new restaurant. This analysis will take into consideration 4 locations within Washington DC area: Dupont Circle, Bethesda, Arlington and Silver Spring.

Data - FourSquare API

The main source of restaurant data will come from the Four Square API. To address the outlined above, I will be searching for locations of Chinese restaurants from the Foursquare Venues Search Endpoint.

Data - US Census Bureau – Neighborhood Populations

We will leverage population counts coming from the US Census Survey to adjust for the number of individuals living in the area . This will allow our findings to be directly compared with each other.

Findings – Bar Charts

Figure 1. Count of Chinese Restaurants by Neighborhood

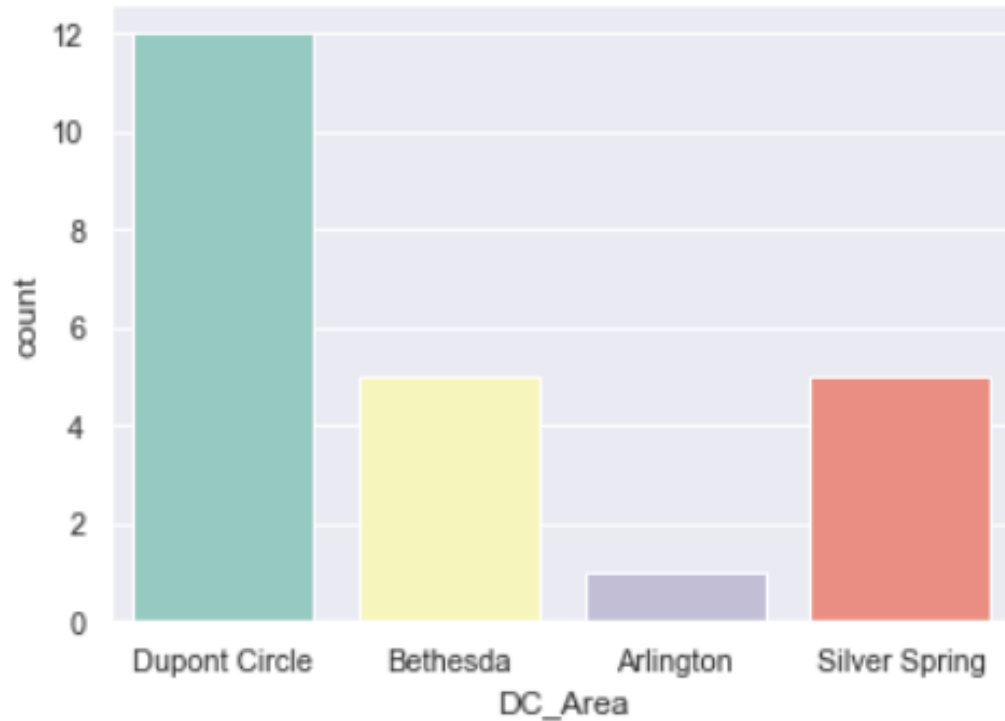
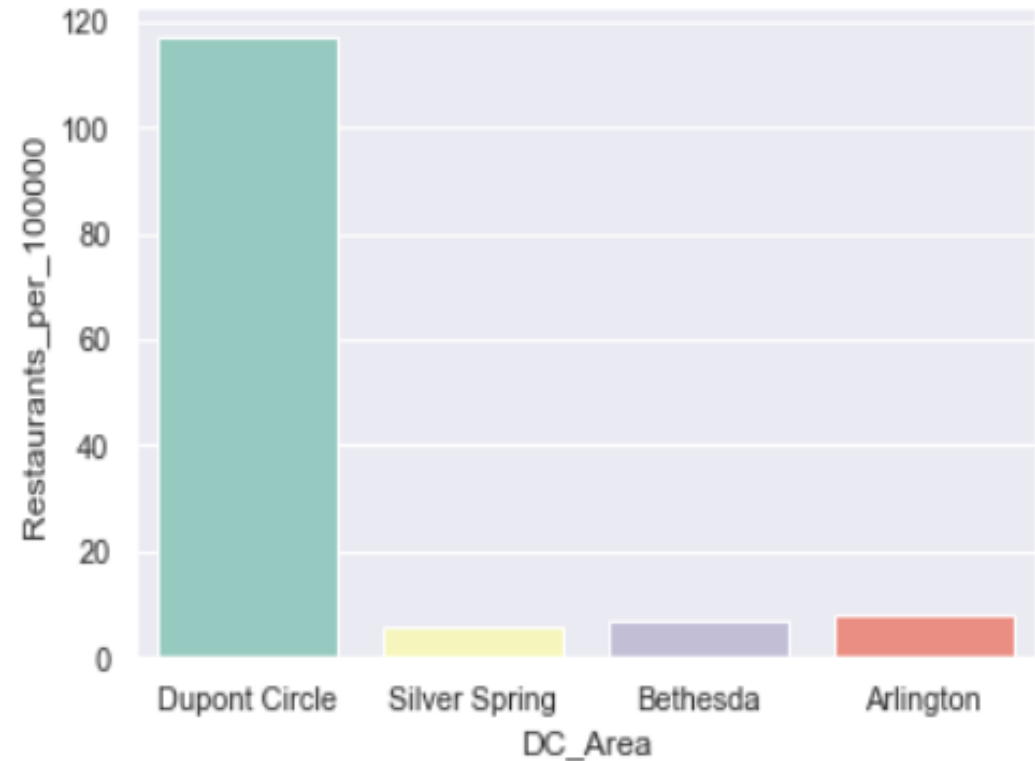


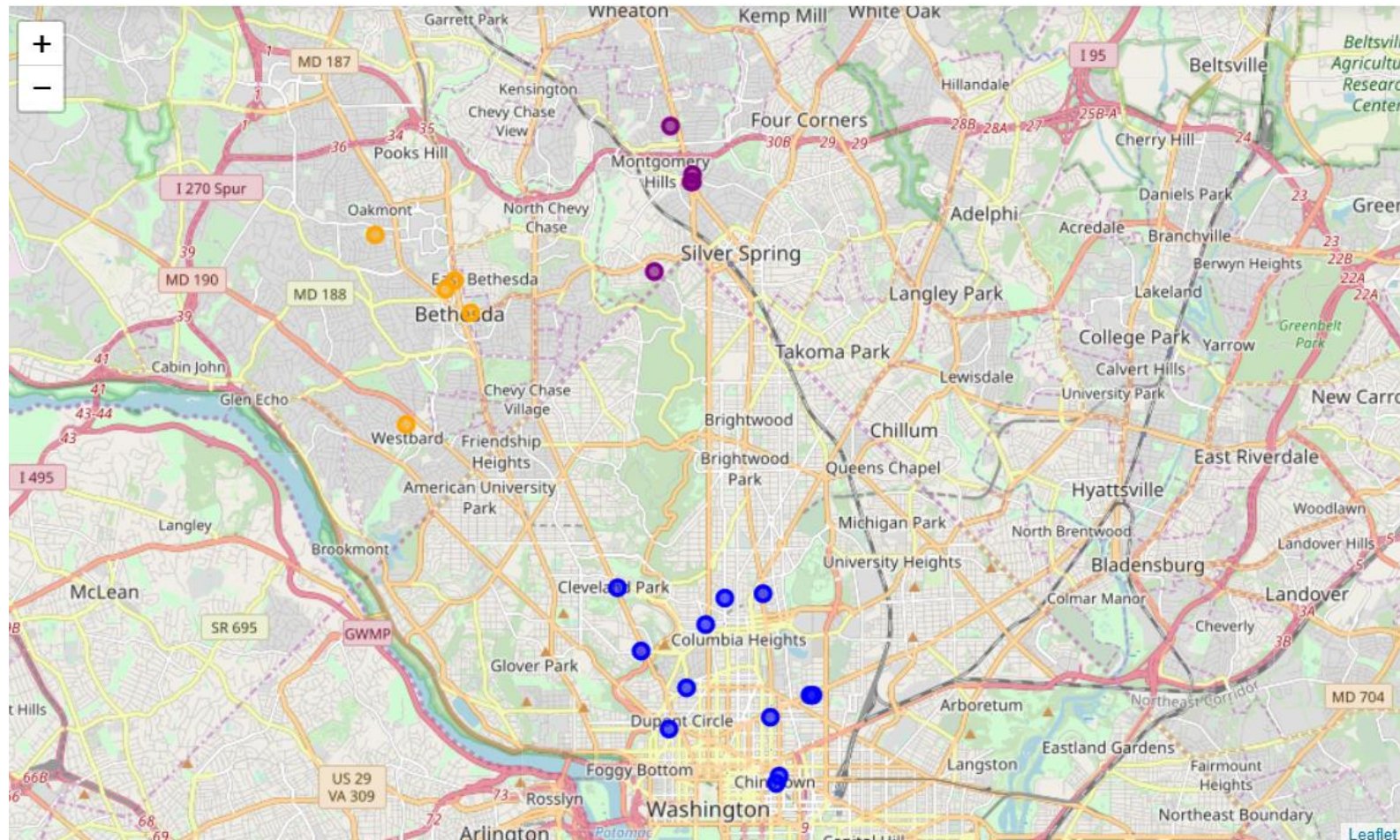
Figure 2. Population Adjusted Rates by Neighborhood



Dupont Circle has significantly higher number of Chinese restaurants than the other 3 areas examined;
Arlington has a surprisingly low number. The results stay the same after adjusting for population count.

Findings – Map

Figure 3. Map of Chinese restaurant locations in the DMV area. The orange locations correspond to Bethesda; Blue locations correspond to Dupont Circle; and the Purple locations correspond to Silver Spring.



Discussion and Conclusion

Finding

Silver Spring, Bethesda and Arlington all have a low supply of Chinese food restaurants in the area relative to current population estimates

Dupont Circle has a high supply of Chinese food restaurants

Key Takeaway

These there locations are strong candidates to consider opening up a new Chinese food restaurant.

Dupont Circle may not be a strong candidate for opening up a new Chinese food restaurant.

In conclusion, we recommend that Arlington, Silver Spring and Bethesda be considered as strong candidate areas to establish a new Chinese restaurant. Dupont Circle may not be the best location due to strong current supple of Chinese restaurants