

Exploring and Clustering Asian Restaurants in Austin (Data)

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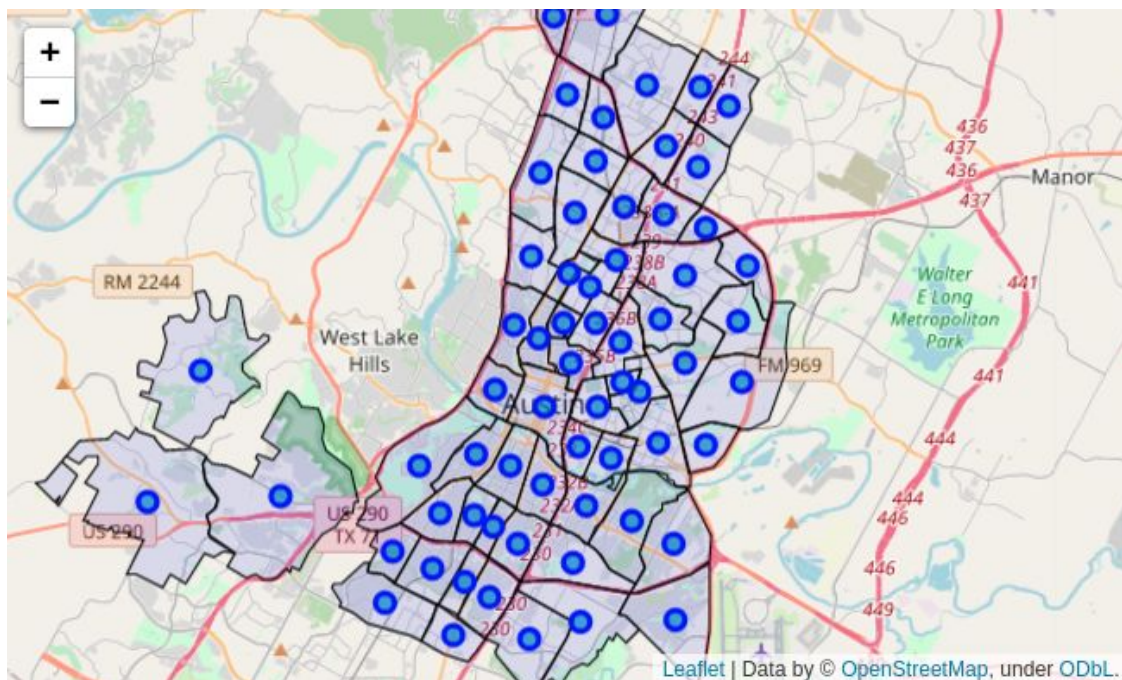
To review the Introduction/Business Problem part:

<https://github.com/Andersen1997/Applied-Data-Science-Capstone-with-Python/blob/master/Week4-Introduction-Business-Problem-Andersen-Lin.pdf>

To address the problem, below is a list of data we need for further analysis:

1. To present users with an interactive map, we need folium to render a map and allow us to put additional information

An example of a rendered map by folium with neighborhood boundaries and markers:



2. To localize Austin on the map, we need geopy to get the geographic coordinate of Austin
3. To assist in finding a location to open an Asian restaurant from a neighborhood basis. We need a GeoJSON file [1] that gives us the coordinates of boundaries of neighborhoods in Austin

An example of part of the cleaned dataset from a GeoJSON file:

	Neighborhood	Latitude	Longitude
0	Johnston Terrace	30.258532	-97.684605
1	Bouldin	30.251880	-97.755556
2	MLK 183	30.278141	-97.671725
3	Zilker	30.255278	-97.768350
4	Crestview	30.346569	-97.725053
5	Onion Creek	30.121934	-97.791569

4. To clearly display the number of existing Asian restaurants in each neighborhood. We need folium to draw choropleth maps
5. To get a list of existing Asian restaurants in Austin [2], we need Foursquare API to explore restaurants based on given locations

An example of part of the cleaned and merged dataset returned by FourSquare API:

	Neighborhood	PostalCode Latitude	PostalCode Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	Bouldin	30.251880	-97.755556	Uchi	30.257594	-97.759891	Japanese Restaurant
1	Bouldin	30.251880	-97.755556	Lucky Robot Japanese Kitchen	30.250943	-97.749165	Japanese Restaurant
2	Bouldin	30.251880	-97.755556	Soto - South Lamar	30.255706	-97.761870	Japanese Restaurant
3	Bouldin	30.251880	-97.755556	Otoko	30.247678	-97.749998	Sushi Restaurant
4	Bouldin	30.251880	-97.755556	Ramen Tatsu-ya	30.253895	-97.763134	Ramen Restaurant
5	Bouldin	30.251880	-97.755556	Dawa Sushi Kimchi	30.251554	-97.753995	Sushi Restaurant

References:

- [1]. Austin Travis TX US Neighborhoods, OpenDataSoft. Retrieved from:
<https://public.opendatasoft.com/explore/dataset/zillow-neighborhoods/export/?refine.state=TX&refine.county=Travis&refine.city=Austin>
- [2]. Queried Asian Restaurant Recommendations within 1000 Meters of Each Neighborhood in Austin, FourSquare API. Retrieved from:
<https://developer.foursquare.com/docs/api-reference/venues/explore/>