

DATA OVERVIEW

The data that we will use for this analysis is a combination of a CSV file that has been prepared for the purposes of the analysis from multiple sources (Dubai_neighborhoods.csv) and the location/venue information in foursquare.

Source 1: Dubai_neighborhoods.csv

We will first determine the most likely neighborhoods for a restaurant based on average rental prices and relative distance to a high rent center. In the case of Dubai, the three highest rent averages can be found in Palm Jumeirah, Jumeirah, and Zabeel. We will then consider the total number of venues and additional criteria such as proximity to a shopping center or offices for midday traffic to make a final determination.

The first step is to establish the neighborhoods in Dubai and a summary of their average rental prices. The average rental index is published annually and can be referenced by a number of different websites [3]. We then make a calculation of the 'Z-score' to standardize the data and sort from lowest to highest average rent. Using google, I looked up the latitude and longitude of each neighborhood and entered it. This information is used to calculate the distance of each neighborhood from the highest rent regions and will also be entered to the Foursquare database for venue query later.

Source 2: Venue data via Foursquare:

Using clustering techniques developed in prior exercises in the capstone project, we will examine the most common venues by neighborhood listed in Foursquare. When we cluster the data together and rank by 'most

Target =
Neighborhood
with reasonable
rent and close
proximity to high
rent area: Zabeel,
Jumeirah or Palm
Jumeirah

Neighborhood	Avg Rent Per Unit	Z-Score	Distance from Palm	Distance from Zabeel	Distance from Jumeirah	Latitude	Longitude
Discovery Gardens	44,672	-1.53	8.18	26.15	20.73	25.039	55.1445
Dubai Silicon Oasis	54,417	-1.30	24.96	13.31	16.39	25.1279	55.3863
Jumeirah Village Circle	60,068	-1.17	9.16	20.56	16.13	25.0602	55.2094
Dubai Sports City	62,753	-1.10	11.36	22.32	18.28	25.0391	55.2176
Remraam	67,284	-0.99	16.71	25.27	22.27	25.0014	55.2508
Al Furjan	73,648	-0.84	9.70	27.28	22.02	25.0252	55.1459
Jumeirah Village Triangle	82,014	-0.64	8.87	22.78	18.04	25.0473	55.19
Motor City	83,876	-0.60	12.61	20.90	17.42	25.045	55.2397
Damac Hills	94,630	-0.34	16.40	22.41	19.37	25.0275	55.2524
AI Sufouh	95,804	-0.31	0.70	17.88	12.02	25.1134	55.1762
DIFC	105,183	-0.09	17.86	3.02	3.57	25.2106	55.2794
Business Bay	105,682	-0.08	15.61	5.55	3.45	25.1832	55.2729
Jumeirah Lakes Towers	106,352	-0.06	4.80	23.80	18.03	25.0693	55.1417
Barsha Heights	111,804	0.07	4.10	19.08	13.48	25.097	55.1776
Emirates Living	114,422	0.13	7.82	23.43	18.36	25.0496	55.174
Dubai Marina	115,236	0.15	3.55	23.02	17.12	25.0805	55.1403
Dubai Investments Park	116,379	0.18	15.30	30.13	25.71	24.979	55.1762
Jumeirah Beach Residence	143,520	0.83	3.97	23.75	17.82	25.0769	55.1341
Dubai Festival City	151,341	1.02	25.23	5.60	11.81	25.2171	55.3614
Downtown	153,546	1.07	16.77	4.19	3.41	25.195	55.2784
Zabeel	176,213	1.61	20.84	0.00	6.57	25.2231	55.3061
Jumeirah	180,180	1.71	14.59	6.57	0.00	25.2016	55.2453
Palm Jumeirah	204,430	2.29	0.00	20.84	14.59	25.1124	55.139

Average Distance from High Rent Areas

Low
Rent Avg

High
Rent Avg

A map of Dubai, United Arab Emirates, showing the locations of 15 bus stops. The stops are marked with blue circles. The map includes major roads, landmarks like the Palm Jumeirah, and labels for 'Dubai' and 'UAE'. The bus stops are distributed across the city, with a higher concentration in the central and southern areas.

The remaining steps in the capstone project will be to evaluate which neighborhood is most suited using the criteria shown above: the rent index of the neighborhood is close to the mean average rent in Dubai, the neighborhood's is located close to a 'high rent' neighborhood, the general restaurant frequency in the neighborhood is reasonable, and proximity to 'other' venues such as business centers or malls is maximized.

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
0	Business Bay	Restaurant	Middle Eastern Restaurant	Italian Restaurant	Tapas Restaurant	Chinese Restaurant
1	Deira	Asian Restaurant	Indian Restaurant	Vietnamese Restaurant	Japanese Restaurant	Brazilian Restaurant
2	Downtown	Middle Eastern Restaurant	American Restaurant	Restaurant	Asian Restaurant	Turkish Restaurant
3	Dubai Marina	Middle Eastern Restaurant	Italian Restaurant	Asian Restaurant	Restaurant	French Restaurant
4	Jebel Ali	Italian Restaurant	Seafood Restaurant	Ethiopian Restaurant	Indonesian Restaurant	Indian Restaurant
5	Jumeirah Beach	Restaurant	Thai Restaurant	Sushi Restaurant	Moroccan Restaurant	English Restaurant
6	Jumeirah Lake Towers	Italian Restaurant	Vietnamese Restaurant	Modern European Restaurant	Greek Restaurant	Indian Restaurant
7	Media City	Middle Eastern Restaurant	Italian Restaurant	French Restaurant	Fast Food Restaurant	Indonesian Restaurant
8	Old Dubai	Middle Eastern Restaurant	Vietnamese Restaurant	Fast Food Restaurant	Indonesian Restaurant	Indian Restaurant
9	Palm Jumeirah	Restaurant	Seafood Restaurant	Indian Restaurant	Brazilian Restaurant	English Restaurant

REFERENCES

1. <https://www.propertymonitor.ae/research/uae-communities-index/dubai-rental-index.html>