

# Applied Data Science Capstone Project

## The Battle of Neighborhoods (Week 2)

### 1. Introduction: Problem Description

This project report explains search for a restaurant businessperson for best location for his business with less competition in Dublin, Ireland.

Idea of this project is If a business person wants to open a restaurant in Dublin, help him analyse which area would be better depending on competition and population within Dublin.

### 2. Background

In recent years Migrations to Ireland are increased and most of the migrant are based at Dublin location. Due to increased housing prices in Dublin city area, people are preferring to locate little away from Dublin, but they find difficult to locate good restaurants near their homes. In such scenario, restaurants like Asian, Chinese or Italian cuisine restaurant would be blessing for people and they won't need to visit Dublin city central always.

### 3. Data

Dublin has postal districts 1-24 or Greater Dublin with 4 major regions can be scrapped from below sites,

[https://en.wikipedia.org/wiki/County\\_Dublin](https://en.wikipedia.org/wiki/County_Dublin)

For the problem mentioned we would need data

- Location data for Dublin postal districts and greater Dublin
- Venues data around all Dublin postal districts and for Greater Dublin regions
- Also population data for 4 major regions of Dublin

With Four square API, nearby venues within 1km region for each of Dublin Postal Districts or greater Dublin region are found.

Shared IBM Notebook at: <https://github.com/alavikunhu/Applied-Data-Science-Capstone-Week5.git>

## 4. Methodology

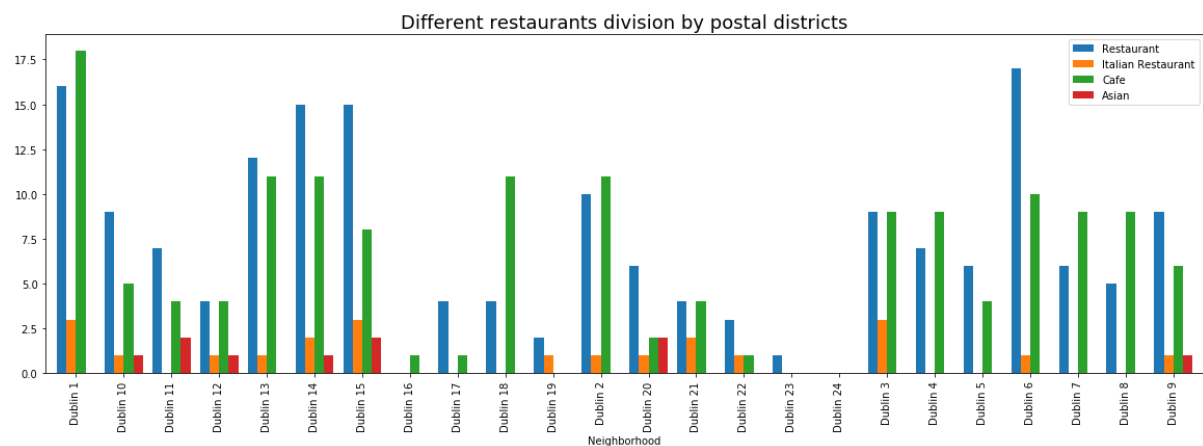
This project will check the density of restaurants in all Dublin postal districts. Also separate check of density of restaurants in each of 4 major regions of Dublin.

Distance between Dublin postal districts varies, range around ~2km is considered to fetch venues for around in each district also venues within ~8km distance is considered for 4 major Dublin regions.

Plot bar charts for restaurants in Dublin postal districts. Plot bar chart for % of Restaurants and population for greater Dublin regions.

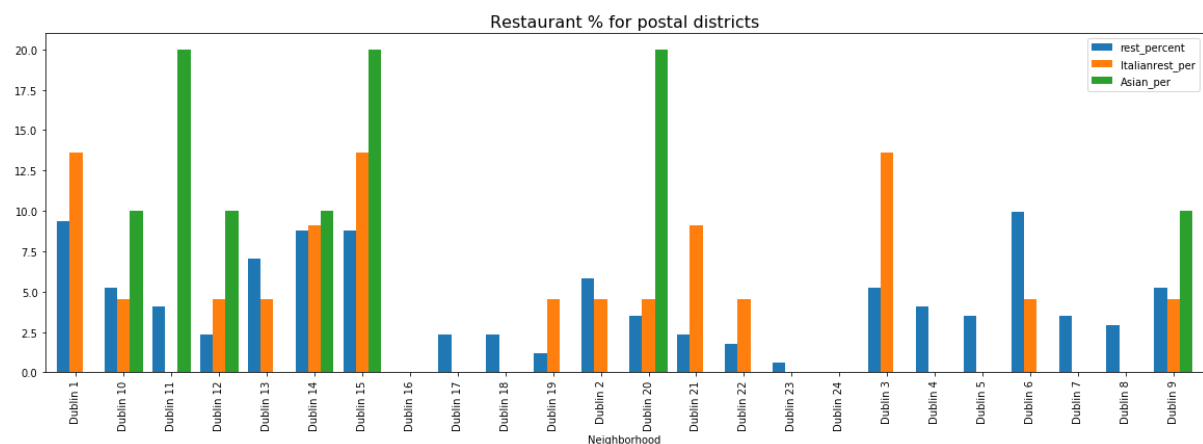
## 5. Results

### ✓ Restaurants counts for all postal districts of Dublin

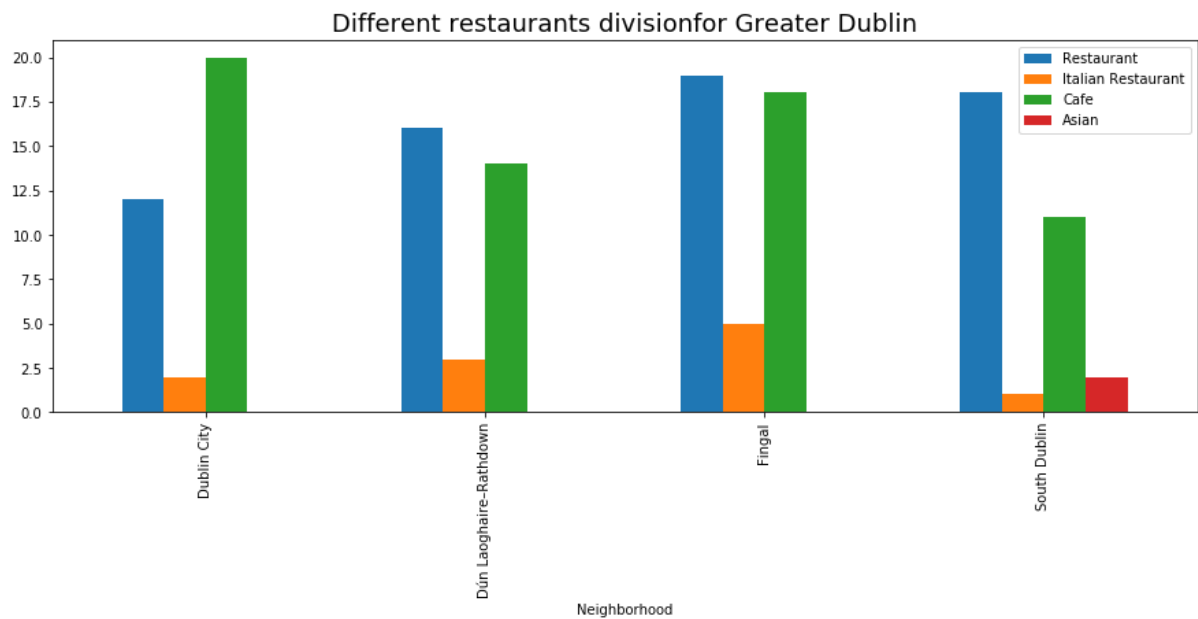


Asian Restaurants have less existence in Dublin City (Dublin 1, Dublin 2), Fingal and Dun-Laghorie areas.

### ✓ % of Restaurants for postal districts



## ✓ % of Population, Restaurants for major regions of Dublin

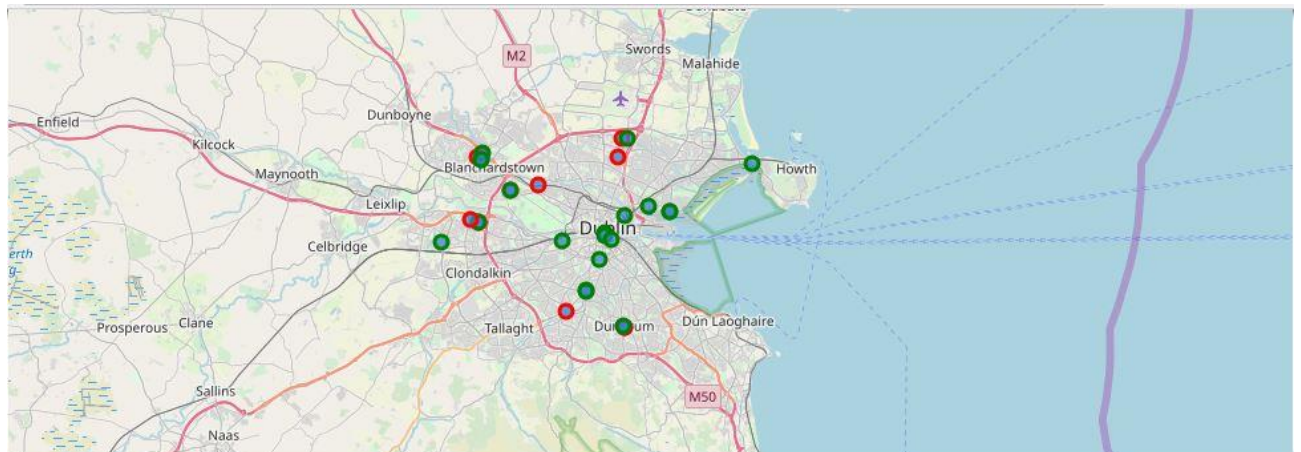


Both Dublin major area wise plots above indicates need of Asian restaurant

## ✓ Map:

'Asian': 'red'

'Italian': 'green'



## 6. Analysis

Overall Asian Restaurants have less existence in Dublin City (Dublin 1, Dublin 2), Fingal and Dun-Laghorie areas, region which has plenty of restaurants and cafe otherwise.

Assuming Asian migrated peoples are settling in Dublin 15, Dublin 2, Dublin 4 postal districts majorly, hence Dubin2 and Dublin4 can be a good potential area for Asian restaurant. Also map shows less Asian restaurants in overall Dublin, specifically in Dublin City.

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
0	Dublin 1	Pub	Coffee Shop	Café	Restaurant	Theater	Ice Cream Shop	Italian Restaurant	Hotel	Cocktail Bar	Plaza
1	Dublin 10	Supermarket	Park	Fast Food Restaurant	Convenience Store	Tram Station	Bar	Coffee Shop	Hotel	Diner	Farm
2	Dublin 11	Supermarket	Coffee Shop	Hotel	Pub	Fast Food Restaurant	Restaurant	Grocery Store	Park	Diner	Gym Pool
3	Dublin 12	Supermarket	Park	Grocery Store	Pub	Bar	Hotel	Coffee Shop	Tram Station	Shopping Mall	Fast Food Restaurant
4	Dublin 13	Seafood Restaurant	Café	Pub	Coffee Shop	Deli / Bodega	Golf Course	Beach	Trail	Train Station	Lighthouse

## 7. Conclusion

*Dublin City, Fingal* and *Dun-Laghorie* would be potential regions to open an *Asian Restaurant*. Assuming increasing population in Dublin 4, Dublin 8 and Fingal region, *Asian restaurants* would have good potential in these areas of Dublin