



IBM Data Science Capstone Project

[Abstract](#)

In this report, we will explore restaurants in Singapore by location and category, for a businessman to decide where he can open his next restaurant in Singapore.

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A description of the problem and a discussion of the background

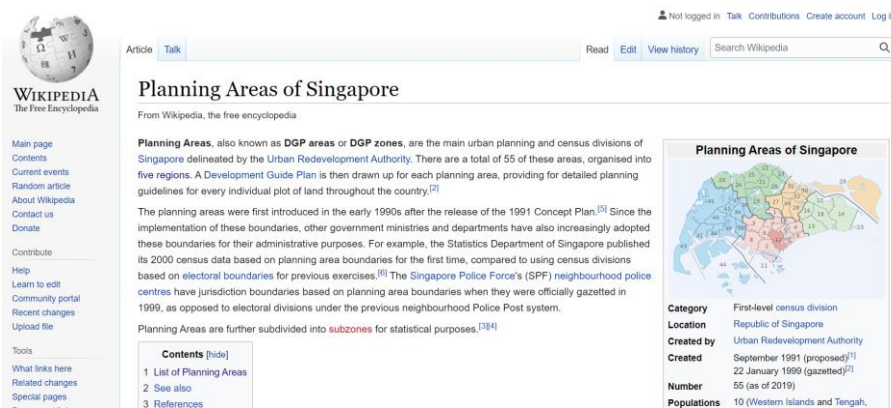
Singapore, whilst small, is known for many things. It is a regional financial centre, a popular tourist destination and a shipping hub, home to over a population of 5 million. On top of that, Singapore is also known for its gastronomical delights. If you were to ask locals, or anyone who has lived in Singapore before, what they would miss the most of about Singapore if they were to move abroad, the common answer would be: food.

There are hundreds of eating places in Singapore, ranging from hawker centres to restaurants and snack places dotted across the country. Singapore is geographically small, and one can easily travel across Singapore by car in less than an hour.

If a businessman is thinking of opening a restaurant in Singapore, how does he start his research? How can we leverage Foursquare location data and machine learning to help the businessman decide he can open his restaurant? What type of restaurants are popular in Singapore?

A description of the data and how it will be used to solve the problem

Foursquare data about restaurants in Singapore will be used to extract information such as its location, name and category of food. Also, the overview of planning areas in Singapore will be extracted from Wikipedia: https://en.wikipedia.org/wiki/Planning_Areas_of_Singapore



The screenshot shows the Wikipedia article titled "Planning Areas of Singapore". The article text explains that planning areas, also known as DGP areas or DGP zones, are the main urban planning and census divisions of Singapore, delineated by the Urban Redevelopment Authority. It mentions there are 55 of these areas, organized into five regions. A Development Guide Plan is then drawn up for each planning area, providing for detailed planning guidelines for every individual plot of land throughout the country. The article also notes that the planning areas were first introduced in the early 1990s after the release of the 1991 Concept Plan. Since the implementation of these boundaries, other government ministries and departments have also increasingly adopted these boundaries for their administrative purposes. For example, the Statistics Department of Singapore published its 2000 census data based on planning area boundaries for the first time, compared to using census divisions based on electoral boundaries for previous exercises. The Singapore Police Force's (SPF) neighbourhood police centres have jurisdiction boundaries based on planning area boundaries when they were officially gazetted in 1999, as opposed to electoral divisions under the previous neighbourhood Police Post system. Planning Areas are further subdivided into subzones for statistical purposes.

On the right side of the article, there is a map titled "Planning Areas of Singapore" showing the 55 planning areas color-coded. Below the map is a table with the following information:

Category	First-level census division
Location	Republic of Singapore
Created by	Urban Redevelopment Authority
Created	September 1991 (proposed) ^[1] 22 January 1999 (gazetted) ^[2]
Number	55 (as of 2019)
Populations	10 (Western Islands and Tengah,