



# EXPLORING TOWNS IN SINGAPORE

---

CAPSTONE PROJECT

# INTRODUCTION

In Singapore, vast majority of the dwelling units are spread across 23 towns and 3 estates.

Each town or estate is designed such that it can be self-contained with living, education, healthcare, and recreational needs

**Which town/estate should you stay in?**



# DATA SOURCES

- Singapore town and estates names and total area: [https://en.wikipedia.org/wiki/New\\_towns\\_of\\_Singapore](https://en.wikipedia.org/wiki/New_towns_of_Singapore)
- Geographical locations of towns/estates: **ArcGIS**
- Geospatial data – Common venues in each town/estate: **FOURSQUARE**

# METHODOLOGY



## WEB SCRAPING

- List of town/estates
- Area of each town/estates



## GEOCODING

- Longitude and Latitude of each town/estates



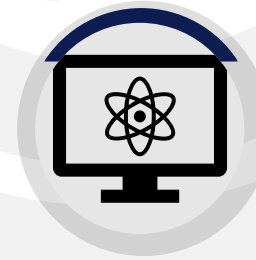
## FOURSQUARE API

- Request for 100 most common venues within specified radius of each town/estate



## FEATURE ENGINEERING

- Convert categorical variables to numerical values
- Find top 10 most common venue of each town/estate

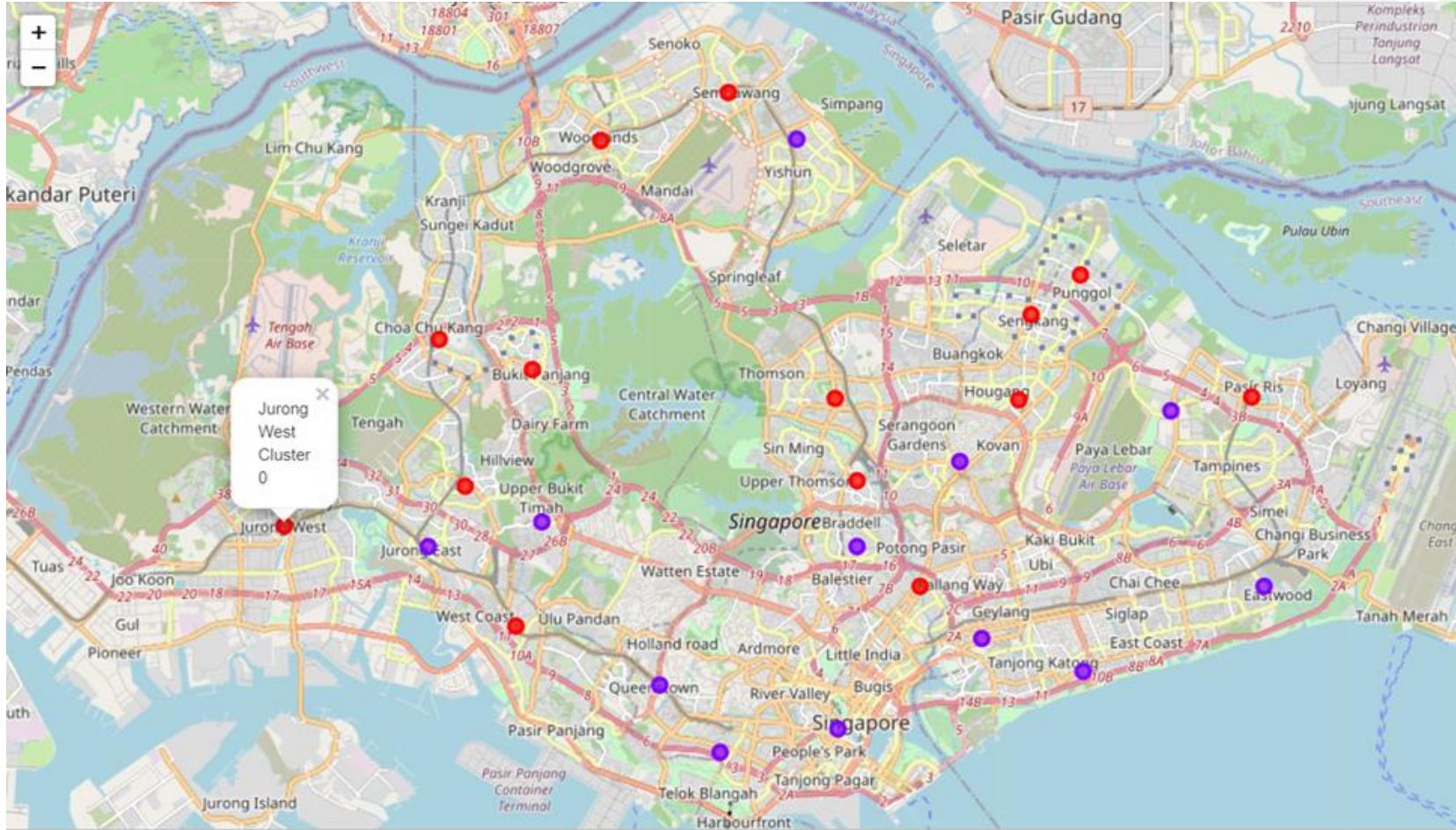


## UNSUPERVISED LEARNING

- K-means clustering
- Number of cluster determined using elbow method and silhouette score



# RESULTS AND DISCUSSION



## Cluster 1 (marked in red):

- Fast food restaurant, coffeeshops, food court most common
- Availability of supermarkets and sports facilities

## Cluster 2 (marked in purple):

- Mostly restaurants, wide variety of cuisine
- Supermarkets and sports/recreational facilities less common

# CONCLUSION

- The findings in this study gives a good starting point to consider the ideal town/estate to stay
  - Cluster 1: Cheaper dining places, as well as availability of supermarkets and sports amenities.
  - Cluster 2: Wide variety of restaurants, but less availability of supermarkets and other amenities.
- Future work can incorporate other factors such as accessibility, schools and housing prices etc. into the study

# REFERENCES

- Slide 1 and 8 image. Retrieved from: <https://expatliving.sg/living-in-singapore-expats-guide-where-to-live/>
- Slide 2 image. Retrieved from: <https://jilaxzone.com/2017/07/25/singapore-buying-hdb-how-to-check-the-remaining-years-of-hdb/>



# THANK YOU

---



LIZA.CHUAWY@GMAIL.COM



GITHUB.COM/LIZACHUA