

# Final capstone project

## Based on data of Auckland



Where are the zones that meet client's food tastes requirement best?



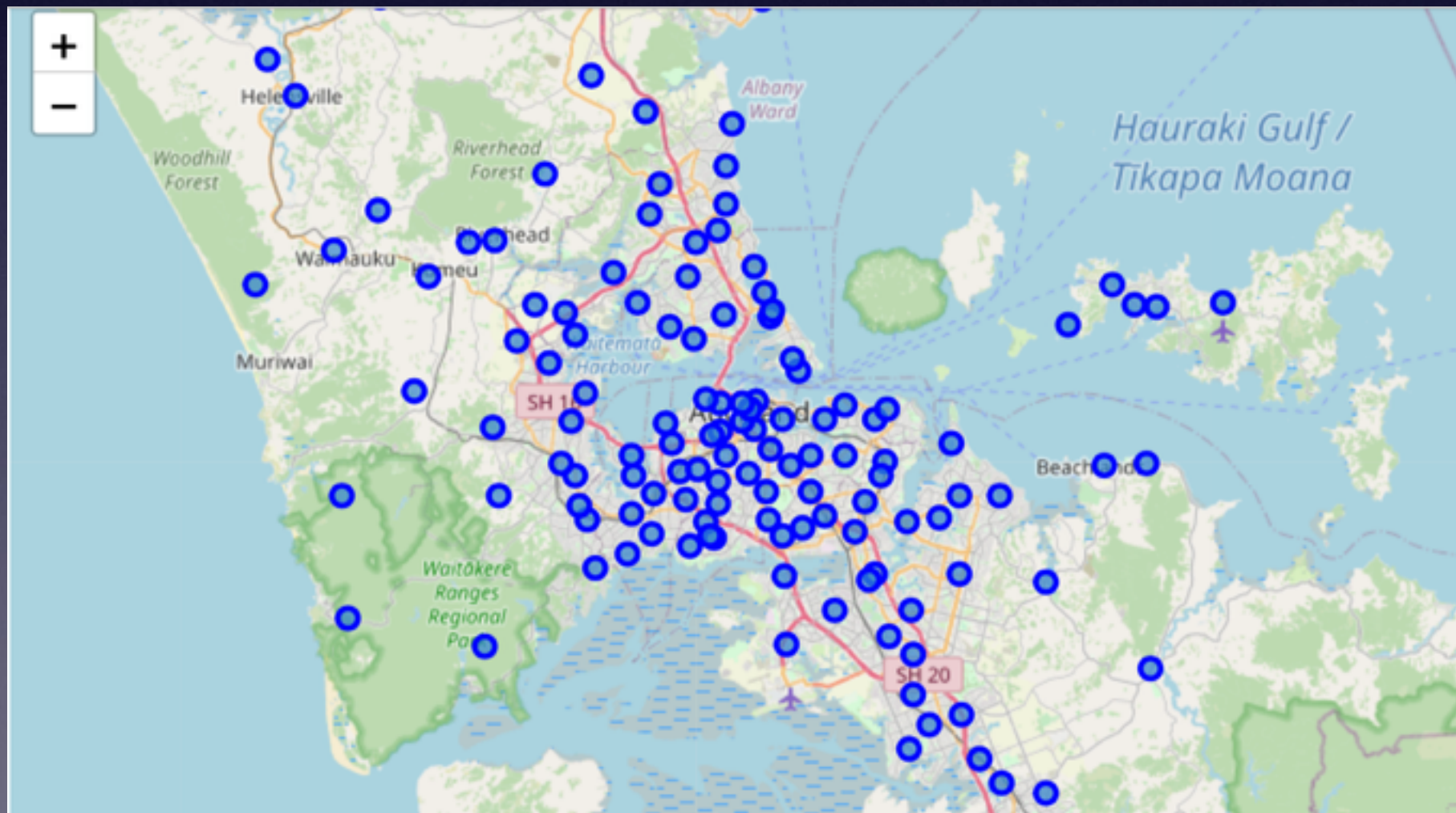
# The Data

- The zone locations data would include the name, postal code, coordinates of those zones so that we can locate those nodes on to a map.
- Restaurants data would be get through API from Foursquare.



# Methodology

- Exploratory data analysis: load data, filter data, clean data, display on map



# Methodology

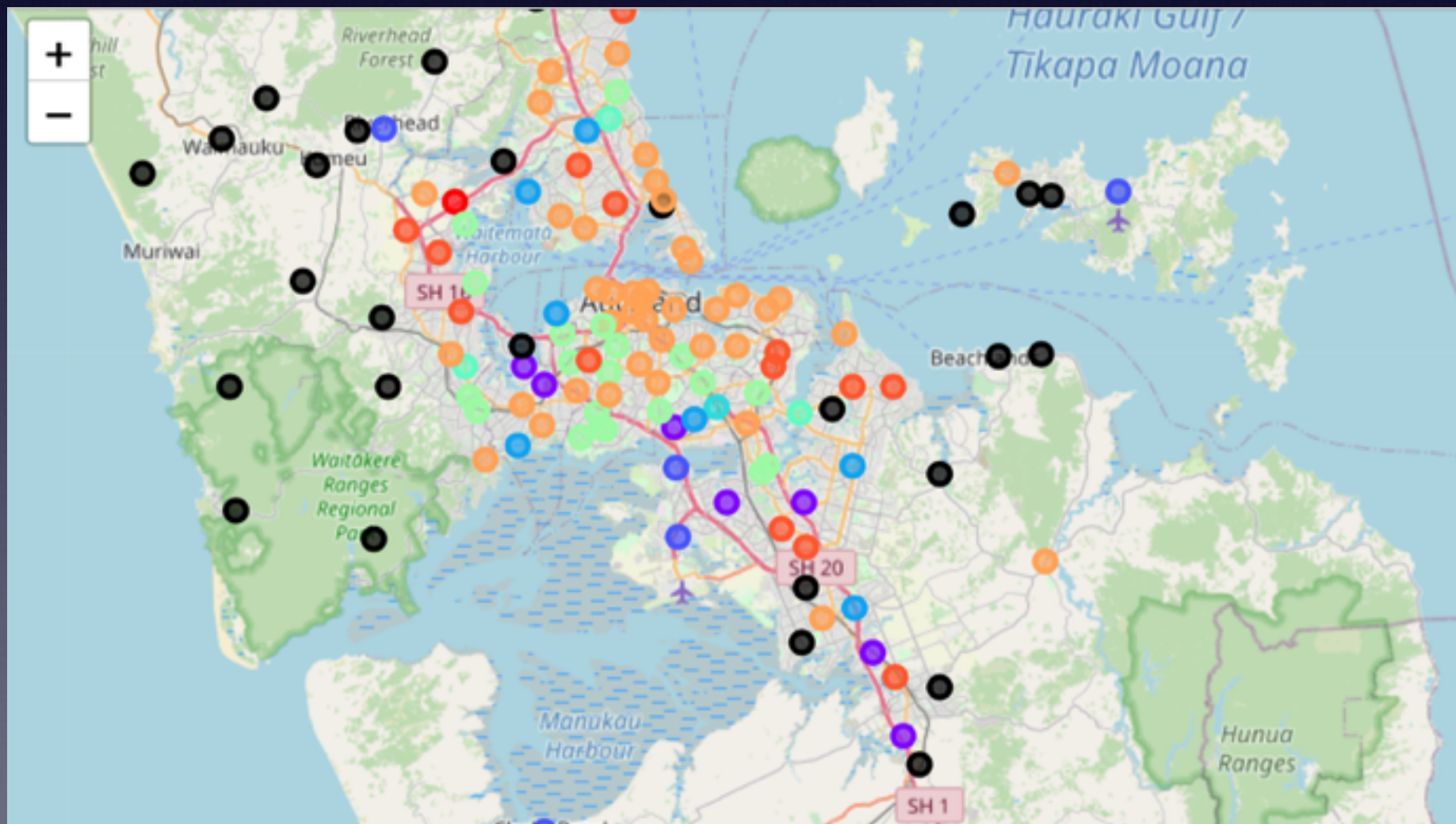
- Inferential statistical testing: analysis data, group data, get most common restaurant for each zone

	zone	1st Most Common Restaurant	2nd Most Common Restaurant	3rd Most Common Restaurant	4th Most Common Restaurant	5th Most Common Restaurant
100	Wesley	Indian Restaurant	Asian Restaurant	Restaurant	Ethiopian Restaurant	Yakitori Restaurant
101	West Harbour	Fast Food Restaurant	American Restaurant	Restaurant	Dutch Restaurant	Indian Restaurant
102	Western Springs	Thai Restaurant	Japanese Restaurant	Middle Eastern Restaurant	Vegetarian / Vegan Restaurant	Turkish Restaurant
103	Whangaparaoa	Indian Restaurant	Yakitori Restaurant	Vietnamese Restaurant	Indonesian Restaurant	Greek Restaurant
104	Wiri	Fast Food Restaurant	Japanese Restaurant	Sushi Restaurant	Portuguese Restaurant	Australian Restaurant



# Methodology

- Machine learnings used: use K-means clustering algorithm to label zones



# Result

- For example, if you love fast food very much, those zones in cluster 0 would be recommended

	zone	1st Most Common Restaurant	2nd Most Common Restaurant	3rd Most Common Restaurant	4th Most Common Restaurant	5th Most Common Restaurant	Cluster Labels
5	Avondale	Fast Food Restaurant	Yakitori Restaurant	Vietnamese Restaurant	Indonesian Restaurant	Indian Restaurant	0
55	Mangere East	Fast Food Restaurant	Yakitori Restaurant	Vietnamese Restaurant	Indonesian Restaurant	Indian Restaurant	0
72	New Windsor	Fast Food Restaurant	Chinese Restaurant	Yakitori Restaurant	Eastern European Restaurant	Indonesian Restaurant	0
80	Onehunga	Fast Food Restaurant	Yakitori Restaurant	Vietnamese Restaurant	Indonesian Restaurant	Indian Restaurant	0
87	Otara	Fast Food Restaurant	Yakitori Restaurant	Vietnamese Restaurant	Indonesian Restaurant	Indian Restaurant	0
94	Papakura	Fast Food Restaurant	Yakitori Restaurant	Vietnamese Restaurant	Indonesian Restaurant	Indian Restaurant	0
124	Takanini	Fast Food Restaurant	Yakitori Restaurant	Vietnamese Restaurant	Indonesian Restaurant	Indian Restaurant	0
148	Wellsford	Fast Food Restaurant	Yakitori Restaurant	Vietnamese Restaurant	Indonesian Restaurant	Indian Restaurant	0

# Conclusion

- This project successfully show the way of clustering zones by restaurant tastes. Clients could easily use this tool to identify which zones fit their favourite best.
- Thanks IBM and Coursera for this Data Science course.





Thanks

**Provided by KW**