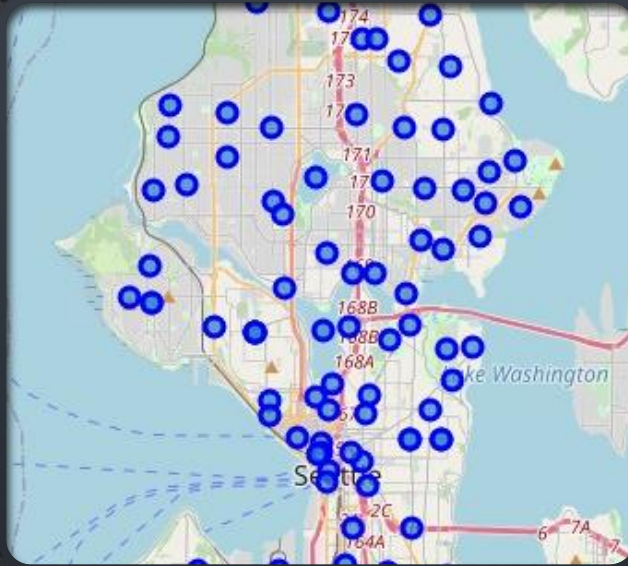# COMPARING NEIGHBORHOODS IN SEATTLE, WA AND PORTLAND, OR

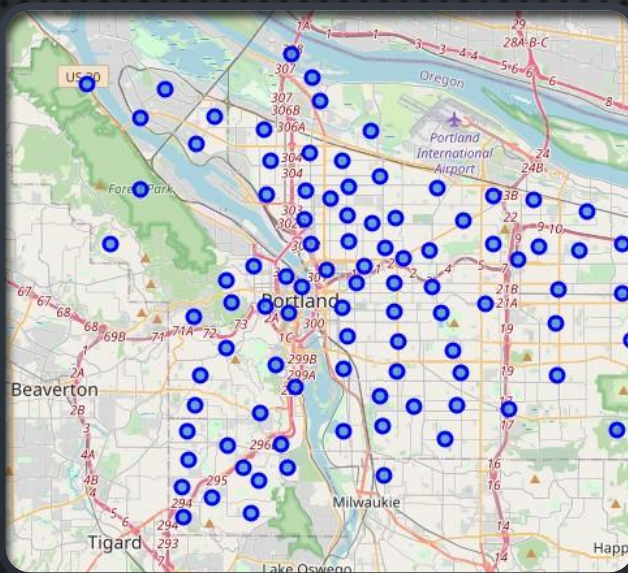## APPLIED DATA SCIENCE CAPSTONE

GRAEME FRASER-KOEHLER

WHY MOVE TO PORTLAND?

- COST OF LIVING INCREASES
- LACK OF OPPORTUNITY
- DESIRE TO LIVE IN A CITY THAT FEELS SMALLER
- PROXIMITY
- SIMILAR CULTURE AND HISTORY

DATA WRANGLING

- Neighborhoods identified from Wikipedia
- Neighborhood locations found using geolocator
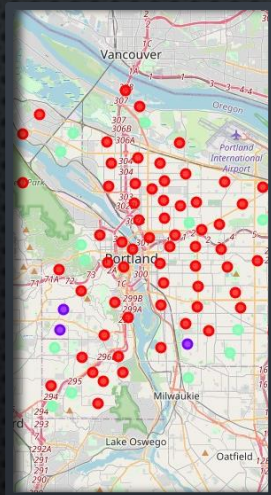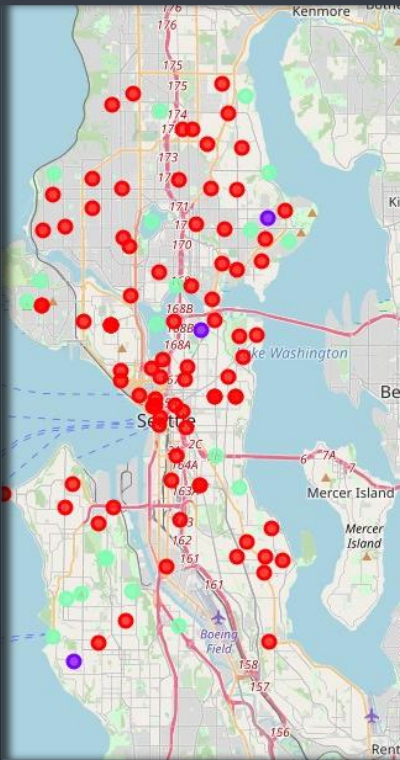- Dropped neighborhoods with no location data

VENUE WRANGLING

- VENUES IDENTIFIED USING FOURSQUARE PLACES API
- PICKED VENUES CLOSE TO EACH NEIGHBORHOOD LOCATION
- ONE-HOT ENCODED BASED ON VENUE CATEGORY, THEN GROUPED BY NEIGHBORHOOD AND NORMALIZED

	Neighborhood	ATM	Accessories Store	African Restaurant	American Restaurant	Amphitheater	Antique Shop	Arcade	Argentinian Restaurant	Art Gallery	...	Weight Loss Center	Whisky Bar	Wine Bar	Wine Shop	Winery	Wings Joint	Women's Store	Yoga Studio	Zoo	Zoo Exhibit
0	AdamsS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	...	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	AlamedaS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	...	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	Alki PointS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	...	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	Arbor HeightsS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	...	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	Arbor LodgeS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	...	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

CLUSTERING

- K-MEANS
- 3 CLUSTERS
- ALL NEIGHBORHOODS INCLUDED IN ONE ANALYSIS

	Neighborhood	Latitude	Longitude	Cluster Labels
0	North SeattleS	47.691037	-122.305549	0
1	BroadviewS	47.722320	-122.360407	0
2	Bitter LakeS	47.726236	-122.348764	0
3	North Beach / Blue RidgeS	47.696210	-122.392362	2
4	Crown HillS	47.694715	-122.371459	0

BROAD SIMILARITIES

Neighborhoods mostly belong to one cluster

EXPANDED COMPARISONS

- Job opportunities
- Education
- Cost-of-living

CONCLUSIONS

- Simple to pick a neighborhood in the same cluster as home

- Final decision requires more information from the stakeholder