

# Investigating Best Rental Location for College Student

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# Problem

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- Social Criteria
  - Crime Rate (Safety)
  - Distance from University
  - Venues:
    - Gym
    - Nightclubs
    - Supermarkets
    - Public Transport Stops
- Economic Criteria
  - Average Price of Rental



# Data Collection

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Borough Geolocations: [https://en.wikipedia.org/wiki/List\\_of\\_London\\_boroughs](https://en.wikipedia.org/wiki/List_of_London_boroughs)

Distance from the University: Google Maps

Crime Rate: <https://www.finder.com/uk/london-crime-statistics> Average

Price of Rental: <https://www.mylondon.news/news/property/london-rent-prices-cheapest-borough/17525488>

	Borough	Latitude	Longitude
0	Barking and Dagenham	51.5607	0.1557
1	Barnet	51.6252	-0.1517
2	Bexley	51.4549	0.1505
3	Brent	51.5588	-0.2817
4	Bromley	51.4039	0.0198

Parsing Wikipedia Table

	Borough	Latitude	Longitude	Rent	Crime	Distance
0	Barking and Dagenham	51.5607	0.1557	0.597858	0.287882	0.913043
1	Barnet	51.6252	-0.1517	0.638754	0.433556	0.347826
2	Bexley	51.4549	0.1505	0.574489	0.248944	0.891304
3	Brent	51.5588	-0.2817	0.702045	0.431029	0.334239
4	Bromley	51.4039	0.0198	0.601753	0.350556	0.586957

Parsing External Data Sources

	Borough	Borough Latitude	Borough Longitude	Venue	Venue Latitude	Venue Longitude
0	Barking and Dagenham	51.5607	0.1557	Y's Gym	51.565280	0.184793
1	Barking and Dagenham	51.5607	0.1557	The Gym London Chadwell Heath	51.567393	0.117979
2	Barnet	51.6252	-0.1517	Pumping Iron Fitness Gym	51.617391	-0.143078
3	Barnet	51.6252	-0.1517	Nuffield Health Fitness & Wellbeing Gym	51.613354	-0.147670
4	Bexley	51.4549	0.1505	Better Gym Bexleyheath	51.458329	0.132591

Extracting Data from Foursquare API

# Data Preparation



Graph to show Relationship between Normalized Distance from ICL and Mean Normalized Rent

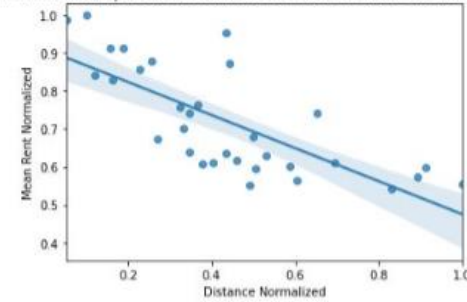


Figure 6: Graph Normalized Distance vs Mean Normalized Distance

Graph to show Relationship between Normalized Crime and Normalized Distance from ICL

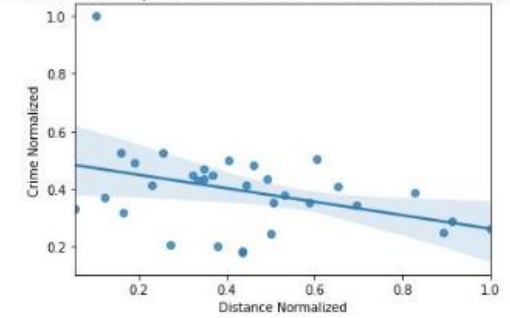
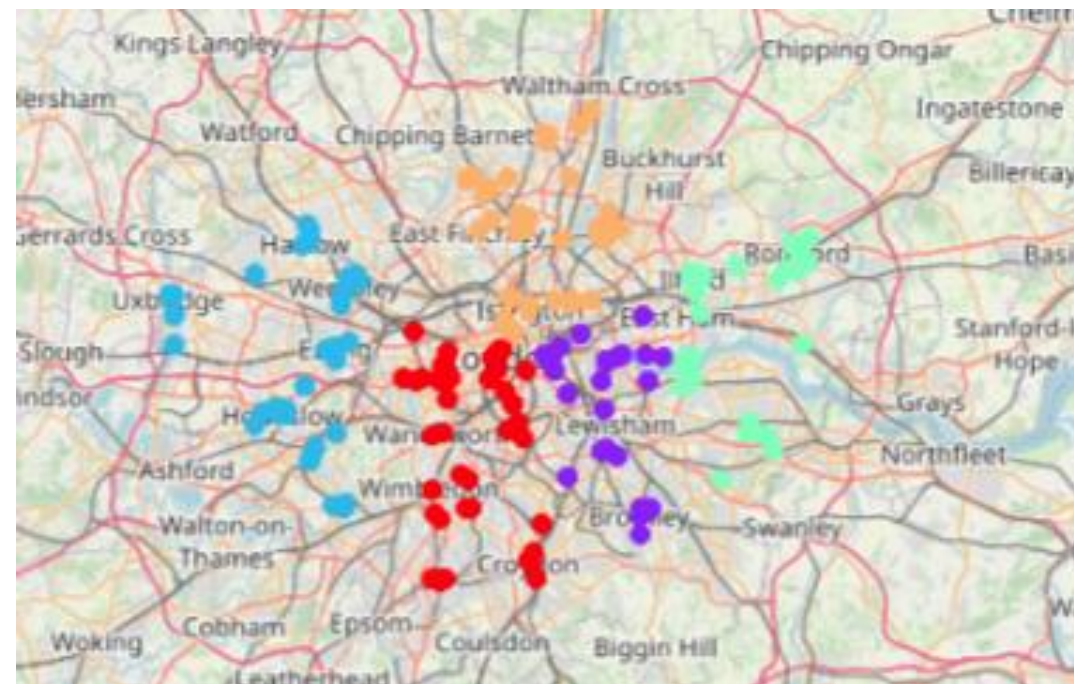
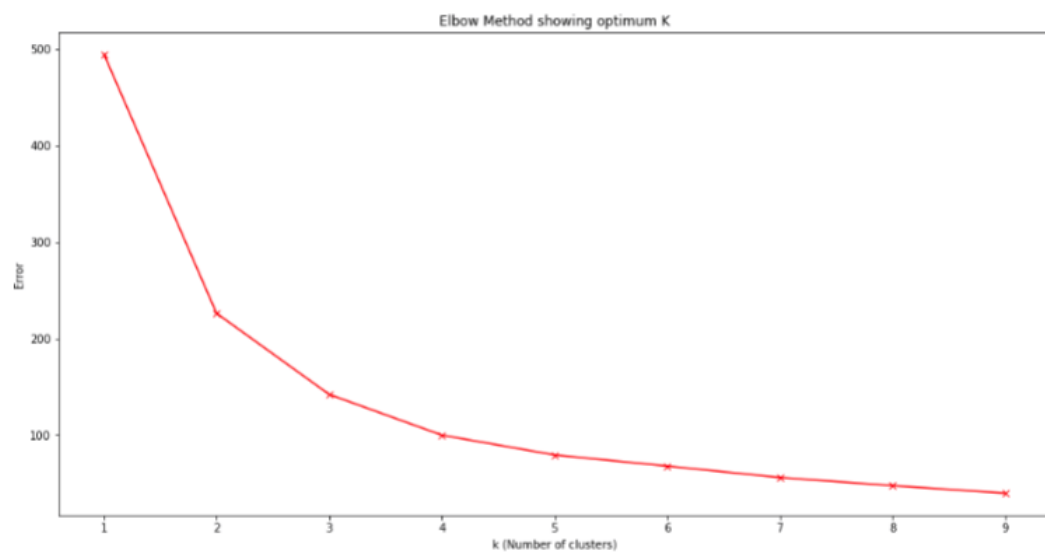


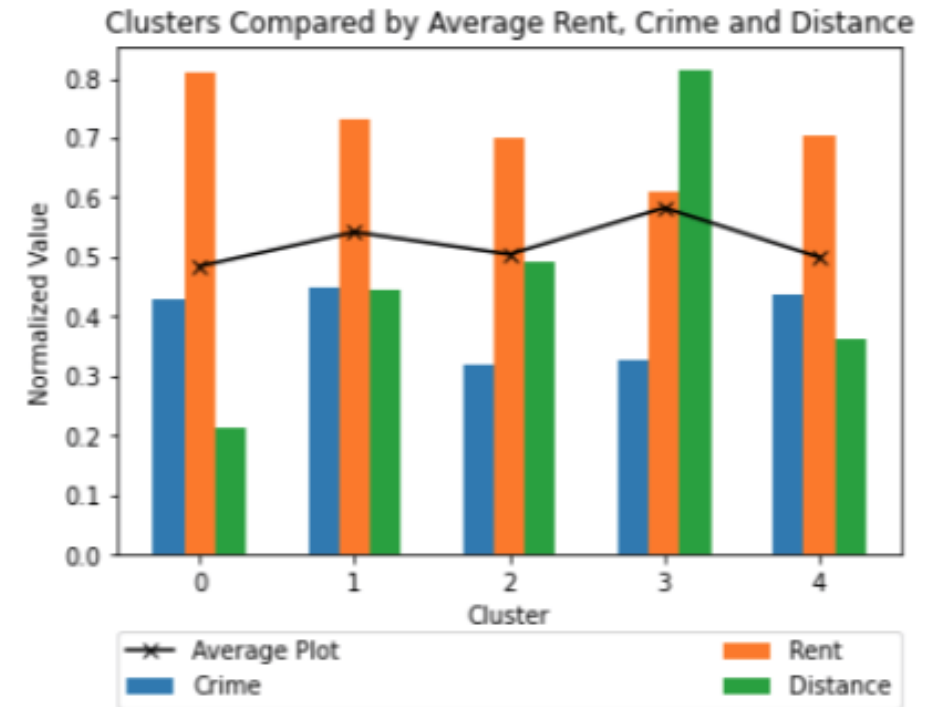
Figure 5: Graph: Normalized Distance vs Normalized Crime

# Exploratory Data Analysis



# Clustering

	Rent	Crime	Distance
cluster			
0	0.810635	0.430681	0.211838
1	0.733155	0.448975	0.443071
2	0.700841	0.319511	0.492737
3	0.608025	0.325869	0.813448
4	0.702104	0.434828	0.361469



# Evaluating Clusters





# Conclusion

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