

The Battle of Neighbourhoods:

Cluster Analysis of London Real Estate Market

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Business Problem Section

We use London Housing Market data and Foursquare API to help home buyers make better decisions.

- Hidden price falls
- Record-low sales
- Homebuilder exodus
- Tax hikes addressing overseas buyers



Data and Methodology Section

For Data: Merged London Property data and data on essential facilities surrounding such properties from Foursquare API.

For Methodology:

- Collect Data
- Data understanding and Exploration
- Data preparation and reprocessing
- Modelling



Results

	Street	Avg_Price	Latitude	Longitude
194	ALBION SQUARE	2.450000e+06	-41.273758	173.289393
388	ANHALT ROAD	2.435000e+06	51.480326	-0.166761
402	ANSDELL TERRACE	2.250000e+06	51.499890	-0.189103
417	APPLEGARTH ROAD	2.400000e+06	53.749244	-0.326780
845	BARONSMEAD ROAD	2.375000e+06	51.477315	-0.239457
969	BEAUCLERC ROAD	2.480000e+06	51.499577	-0.229033
1091	BELVEDERE DRIVE	2.340000e+06	38.201316	-84.623076
1204	BICKENHALL STREET	2.208500e+06	51.521197	-0.158934
1242	BIRCHLANDS AVENUE	2.217000e+06	51.448394	-0.160468
1539	BRAMPTON GROVE	2.456875e+06	51.570365	-0.283394
1617	BRIARDALE GARDENS	2.397132e+06	51.560175	-0.195431
1781	BROOKWAY	2.400000e+06	45.432185	-122.802812
1896	BURBAGE ROAD	2.445000e+06	51.450967	-0.095288
1960	BURY WALK	2.492500e+06	52.145529	-0.423593
2041	CALEDONIAN ROAD	2.395704e+06	51.548482	-0.118359
2046	CALLCOTT STREET	2.375000e+06	51.508350	-0.198328
2107	CAMPDEN HILL ROAD	2.379653e+06	51.506461	-0.198896
2114	CAMPION ROAD	2.461000e+06	52.681351	0.965439
2136	CANNING PLACE	2.425000e+06	51.499570	-0.184248
2203	CARLISLE ROAD	2.200000e+06	42.549099	-71.416689

Figure: The neighbourhoods average by house price



Results

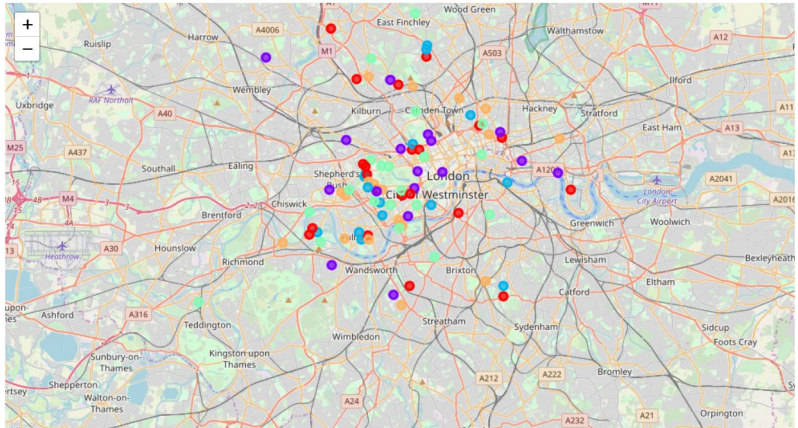


Figure: K-means clustering map of London neighbourhoods where K is 5



Conclusion

In conclusion, we adopt machine learning tools in order to assist home buyers in London to make wise and effective decisions.

- Examined by neighbourhoods:
 - West London (Notting Hill, Kensington, Chelsea, Marylebone) and North-West London (Hampstead) might be considered highly profitable venues to purchase a real estate;
 - South-West London (Wandsworth, Balham) and North-West London (Islington) are arising as next future elite venues with a wide range of amenities and facilities.
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- Examined by clusters:
 - Clusters 0, 2 and 4 may target home buyers prone to live in 'green' areas with parks, waterfronts;
 - Clusters 1 and 3 may target individuals who love pubs, theatres and soccer.

