

A Comparative Analysis of Constituencies in England and Wales

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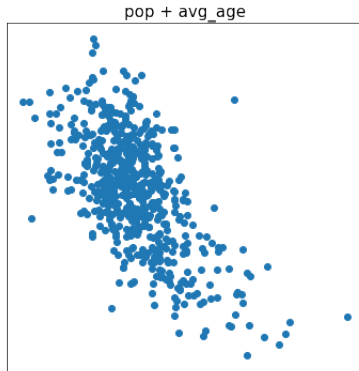
What is the problem at hand?

- Say you have a company in Bristol, and you want to branch out to a different city. Which one do you choose?
- You *could* just do like everyone else and head to London. But is that the correct choice? What other options do you have?
- There are 650 parliamentary constituencies in the UK. You do not have time to look through every one of them in detail.

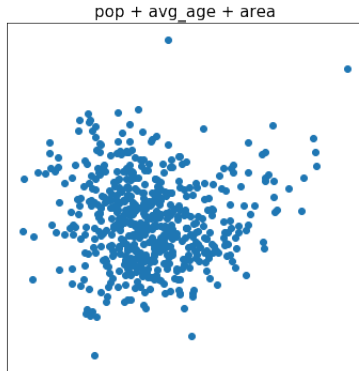
What information defines an area?

- The total population of the area
- The average age
- The size of the area, to account for population density
- House prices in the area, to estimate population wealth
- Amount of businesses in the area
- The *type* of businesses in the area
- The qualifications of the population of the area
- Amenities present in the area

Differentiating areas

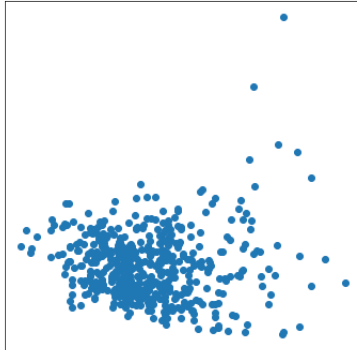


Differentiating areas



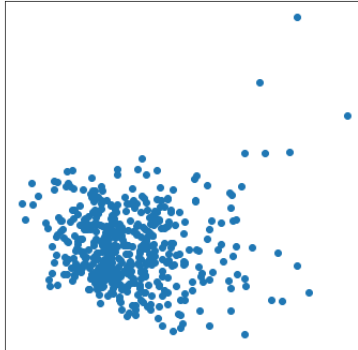
Differentiating areas

pop + avg_age + area + house_price



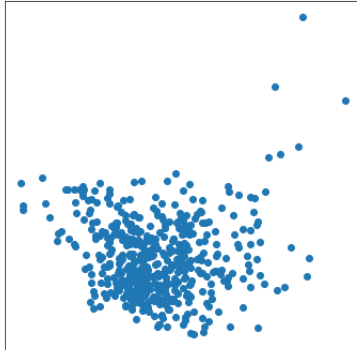
Differentiating areas

pop + avg_age + area + house_price + business



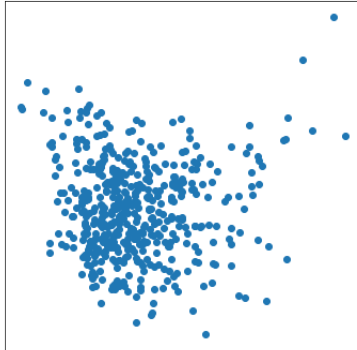
Differentiating areas

all variables except quals and amenity

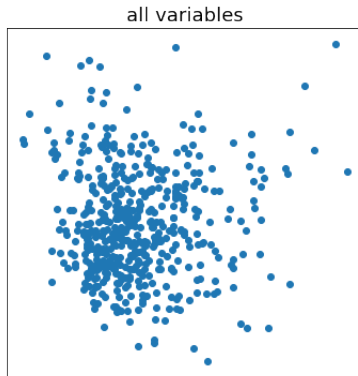


Differentiating areas

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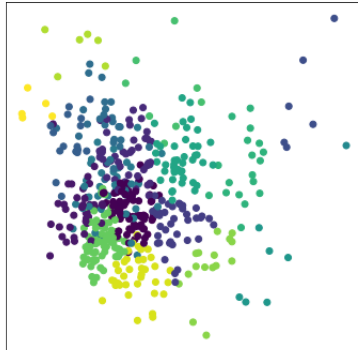


Differentiating areas



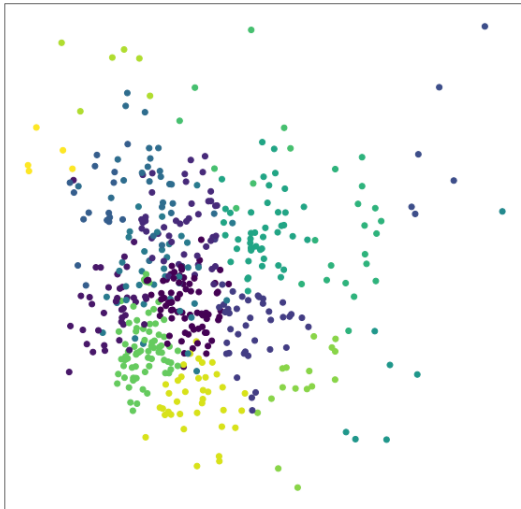
Applying k-means clustering

clustered constituencies for $k=18$

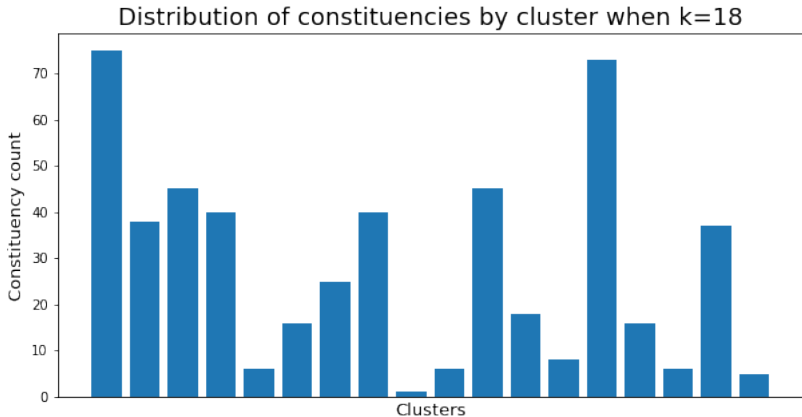


Applying k-means clustering

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Distribution of clusters



The resulting similar areas to Bristol

