

Geographic Data Science

Space, formally

Dani Arribas-Bel

Space, formally

For a statistical method to be **explicitly spatial**, it needs to contain some representation of the geography, or **spatial context**

One of the most common ways is through **Spatial Weights Matrices**

- **(Geo)Visualization:** translating numbers into a (visual) language that the human brain “*speaks better*”
- **Spatial Weights Matrices:** translating geography into a (numerical) language that a computer “*speaks better*”.

Core element in several spatial analysis techniques:

- Spatial autocorrelation
- Spatial clustering / geodemographics
- Spatial regression

W as a formal representation of
space

W

N × *N* positive matrix that contains ***spatial relations***
between all the observations in the sample

$w_{ii} = 0$ by convention

...What is a ***neighbor***???



A course on Geographic Data Science by Dani Arribas-Bel is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.