**W1 – Make me an interactive map**

1. Describe a problem or question in your field for which spatial analysis could be applicable.

Cognitive Science is highly concerned with human behaviour given by various social and cultural dynamics. In relation, behaviour within different contexts can vary relative to the geographical location of the individual. For instance, one could investigate how positively/negatively different age groups engage with a political/societal issue of interest online. By incorporating spatial analysis, it would additionally be possible to inform whether such tendencies also vary across geographical location, from the countryside and smaller villages to different areas in bigger cities (maybe by post code).

1. List 5 data layers that you think are necessary to answer your question/solve your problem. Find on the internet github and then describe examples of two or three of your listed layers.

The geographical location of Denmark in terms of longitude and latitude coordinates. Vector data (points and polygons) to illustrate the different areas as for instance countryside or more closely populated city areas. Attributes providing non-spatial information; this could be demographic information of each postcode, population density, and how the population interacts with the political/societal issue online (for instance a mean sentiment score). In addition, one could colour code the different postcode areas relative to their positive/negative engagement which would in turn enable a fast and comprehensible overview of Denmark generally and relative to the different parts of the country.

1. Coding an interactive map (This can be found on Github: ….)

In the R markdown file, I’ve included a minimap, a measurement possibility for easier map interaction, and differentiated the markers in terms of size given by Accuracy field. Additionally, I’ve added the option of clustering markers.

* There are advantages as well as disadvantages with letting the markers cluster: The advantage is that the area appears clearer and easier to assess. One can very fast see in what areas there will be a high rate of archaeological findings. The most prominent disadvantage is that the map is slightly less precise, as the exact locations of the markers are hidden in favour of a bigger clustering mark. The map user then needs to zoom in to obtain a more precise location.
* I would recommend the clustering in this situation. With more than 250 markers, the clustering facilitates a fast and easy overview of the field.