

Exploratory multivariate analysis and visualization

You have to do a series of analysis and plots to explore this multivariate dataset. You can use the following variables of Schwart's human values (if you wish, you can consult the attached paper) as your main variables: `ipcrtiv`, `impfree`, `impdiff`, `ipadvnt`, `ipgdtim`, `impfun`, `impsafe`, `ipstrgv`, `ipfrule`, `ipbhprp`, `ipmodst`, `imptrad`. You can also use another group of at least 6 variables that should cover a common topic.

The client wants you to:

- a) Explore your data for potential problems (missing data, outliers).
- b) Explore the correlation patterns among your main thematic variables.
- c) Plot your data in a suitable two-dimensional space using an appropriate projection. Use color to denote one of the demographic variables.
- d) Find groups of similar units (based on your selected/main variables).
- e) Describe and name these groups (according to the variables used to find/define these groups) with an appropriate visualization (the names must be also used on the chart).
- f) Visualize these groups in two-dimensional space so that individual units are plotted and are colored according to their group membership.
- g) Visualize these groups in two-dimensional space so that only groups are plotted, but star graphs (or similar graphs) are used to show the values of averages of all variables used in clustering.

For each point (a-g), you have to prepare at least one plot (sometimes more) and also describe your findings (interpretation).