Data visualisation

What is information visualisation?

* Finding the artificial memory that best *supports* our natural means of perception [Bertin 1967]
* The use of computer-generated, interactive, visual representations of data to amplify cognition [Card, Mackinlay, & Schneiderman 1999]
* The best of both side ( Machine and Human )

Why do we use data visualisation:

* Takes a long time to comprehend long lists of numbers at an instant
* Easier to make instant assumptions with visualisation

Common information Visualisation

* Weather
* Political data
* Spotifiy wrapped
* Pie chart
* Bar chart
* Calendar view
* Wikipedia Page
  + Visualising Wikipedia Edit Evolution
* <https://www.theguardian.com/world/interactive/2013/feb/12/state-of-the-union-reading-level>

Information Visualisation Examples:

* D3 java script library ( <https://d3js.org/> )

Module Objectives:

* Fundamental of understanding on how visualisations convey information and how humans perceive
* Master an essential set of visualisation techniques
* Practical experience in visualising real-world data

6th week (MARKED QUIZ)

Coursework

* Pick a data set of your interest
* Pose the initial questions (3 to 5) that you would like to answer
* Assess the fitness fitness of the data
* Answer the questions by visualising the dataset using Java Script or Vega-Lite in an exploratory fashion
* Further refine/propose questions and produce the visualisation for those refined/proposed (more exploratory) questions (<= 10 questions in total)
* It is a bonus if you can make your visualisation interactive
* **Written Report**
  + Description of your data
  + The description with the initial questions
  + For each question, a description of your visualization strategies, including data cleaning, transformation, visual encoding, etc.
  + An explanation of the exploratory process of generating new questions and visualizations.
  + Critical discussion of your visualization design (e.g. why you pick these encodings or this visualization)
  + A reflection on the development process – Upload your codes as well