

IS 590DV- Week #7

Class Notes

Devanshi Bhatt

Graph 7-----

Color map- blue blends

Smooth transition between colors – colors are chunked together

Rich blue hue on the left and rich yellow hue on right- center is grayish-hue dip in the middle

Intended takeaway- to show least and highest values

Difference between man and woman—so thanks to man more in a speech

Solution: use of spouse instead of wife/husband

Alternative ordering of the vertical axis:

current order- alphabetical- could be changed- ordering by most thanked category- brightest color

on top left OR order in which they appear in the list during movie

Interactivity-----

- Tableau- links data and creates visualizations, creates dashboard- it is a layout of several different visualizations
- Characteristics of data point - each point has individual characteristic
- Axis limites - Linear/log scale
- Transforming and scaling- Select points, change axis- by zooming in and out, change scale of the axis

stacking all this together- grammar of graphics – used to draw visualization in bqplot

Linking and Brushing: 2 representations of same data

- filtering of data point - select points where var2 is larger than var1- same change in 2nd graph with var3 and var4
- Real world example: database of people- var1- no. of births, var2- no. of death --- if death > birth → aging population
Age and race in var3 and var4 – when the above condition is used to filter data, the age-race graph also reflects the changes and gives some useful information
- Brushing - free form selection/painting - brushing points on left graph which are associated to points on the right graph form linked views
- Example: UFO data- trend- longer sightings with time-filtering - map view and scatter plot view are linked

Implementation using bqplot:

- Selection- Mathematical filter (concurrent filtering) & Brushing (Index based selection)

- When to use which? - Mathematical filter—when accuracy matters, Brushing- categorical variables, geographic data

Practical Application using bqplot-----

Grammar of graphics

- Scales- LogScale, LinearScale, DateScale, ColorScale
- Axes- what variables are used
- Marks- heat map, scatter plot, histogram
- figures- putting the above grammar together

Interaction in bqplot- based on ipywidgets

- FastIntervalSelector
- MultiSelector
- LassoSelector
- Tooltip
- PanZoom

Dashboarding-----

- Can be created with bqplot based on linked view
- Glueviz- open source viz tool - similar to tableau- but bent towards scientific research