**Lecture-3**

1. Visualizations shouldn’t be biased as it forms most essential part of information dissemination/ exchange. This should be done in way that it decimates maximum amount of information as you can.
2. Try to take data integration in to concern as so that you can present data as it is, that is to avoid any misinterpretation from data. I.e. bar charts should start from zero.
3. As a researcher you have to show it correctly in order to improve efficacy of your work.
4. In line graph zero base line should be followed otherwise you can misinterpret data.
5. While showing plots make sure that you follow zero base line and you should have enough contexts to show people so that they can understand trend/pattern being followed in current plots.
6. <http://nbviewer.ipython.org/github/cs109/content/blob/master/lec_03_statistical_graphs.ipynb>
7. Some basic rules for plots
   1. Avoid using pie charts.
   2. Prefer bar charts wherever feasible.
   3. Avoid stacked line charts as the meaning of upper layers is not conveyed.
   4. Better to go for line chart if you have multi-attribute data streams.
   5. Try to avoid use of multiple colours.
   6. Better use varying hue/opacity to quantify data.
   7. Avoid using rainbow colour map as used by default in matlab.
   8. Use brewer scales as probably 8 to 10% men are colour blind for red and green.
   9. First try to use colorbrewer to check between muter, nominal and brighter one. This provides a nice comparison using inherent colour palette.
   10. Use histograms for showing distributions and try with varying scale of bars/bins to get an idea of efficacy of your plots and check amount of information being dessimated.
8. There is a nice colour palette similar to Cynthia A. Brewer colour scales which can be used with matplotlib. Chris IPython notebook has code for that as well. Link: <http://colorbrewer2.org/>
9. While showing 2D histograms prefer single tone colours with varying hue. Prefer grey scale wherever possible.
10. Edward Tufte’s book: For visualization how to deliver maximum out of your visualizations.
11. Stephen Few’s book: Show me the numbers.