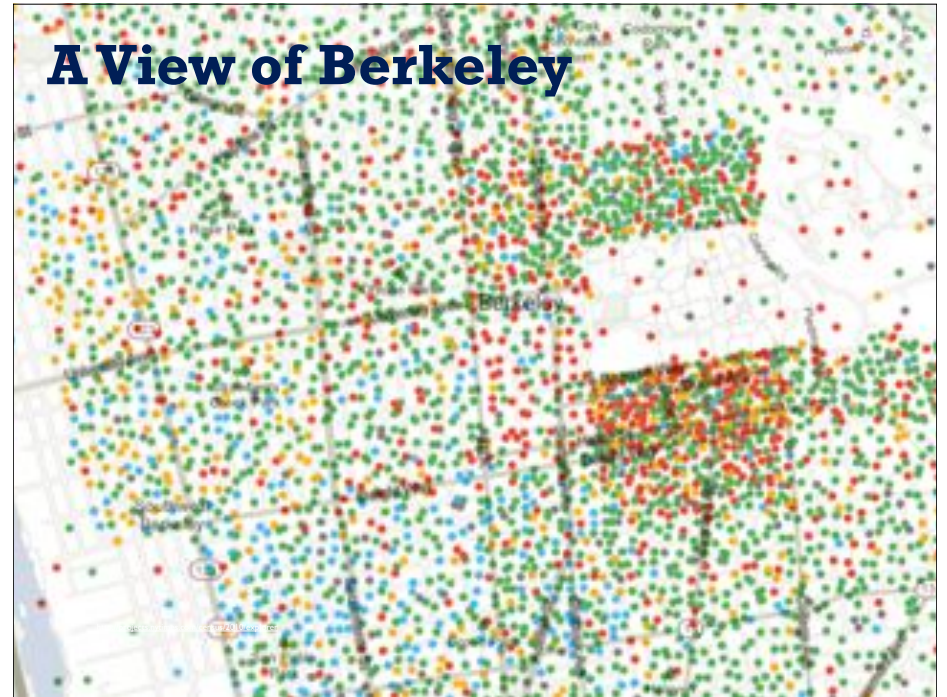


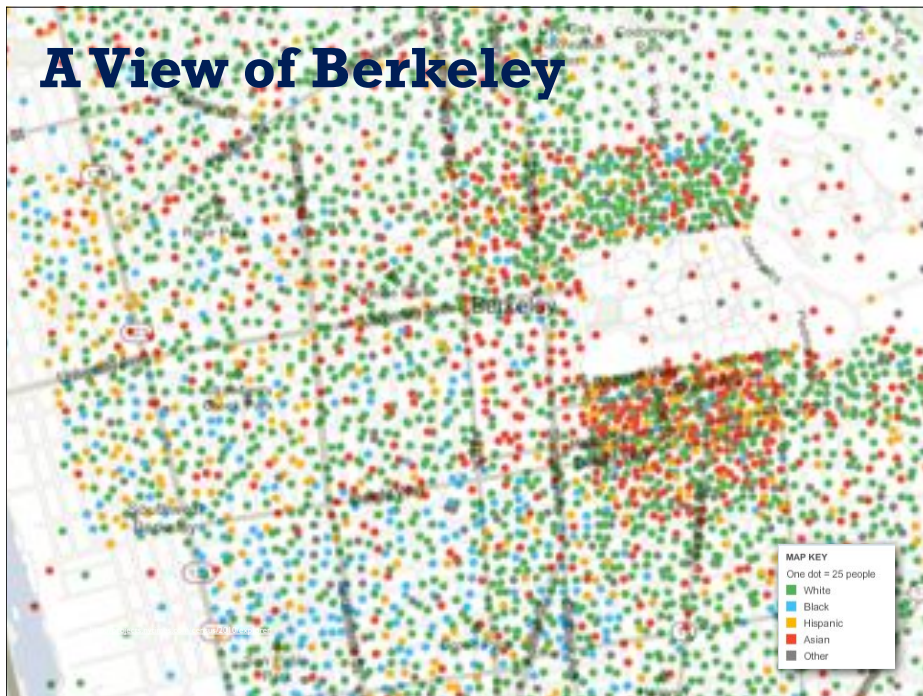
Information Visualization

Introduction

A View of Berkeley



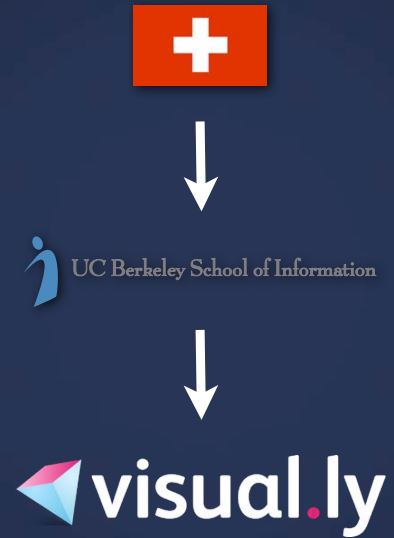
A View of Berkeley



Strings



About me



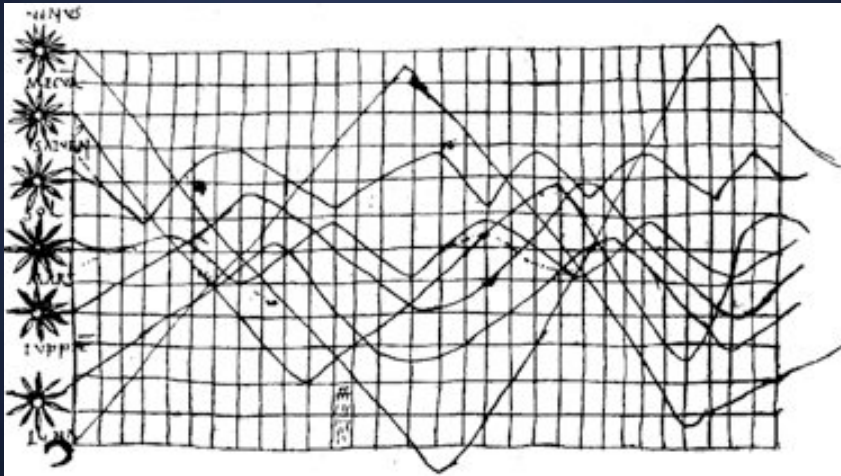
Your Tutor

History

Just a little.

Planetary Movements

ca. 950



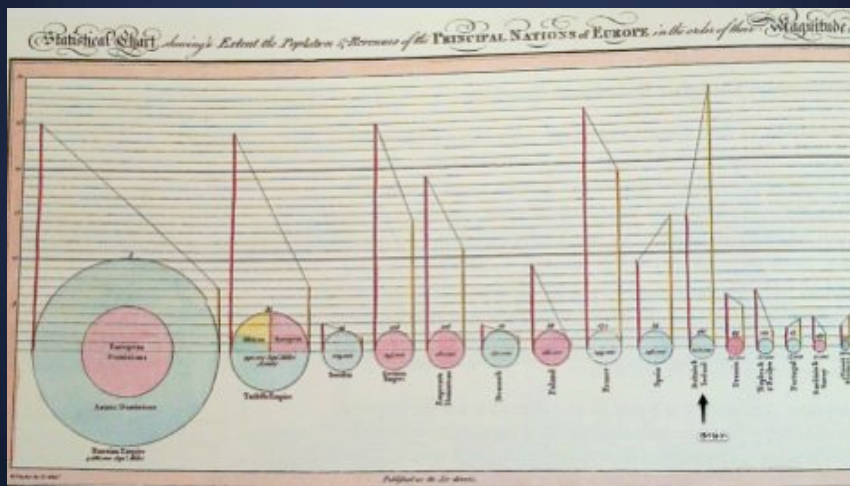
Weather Map

1686



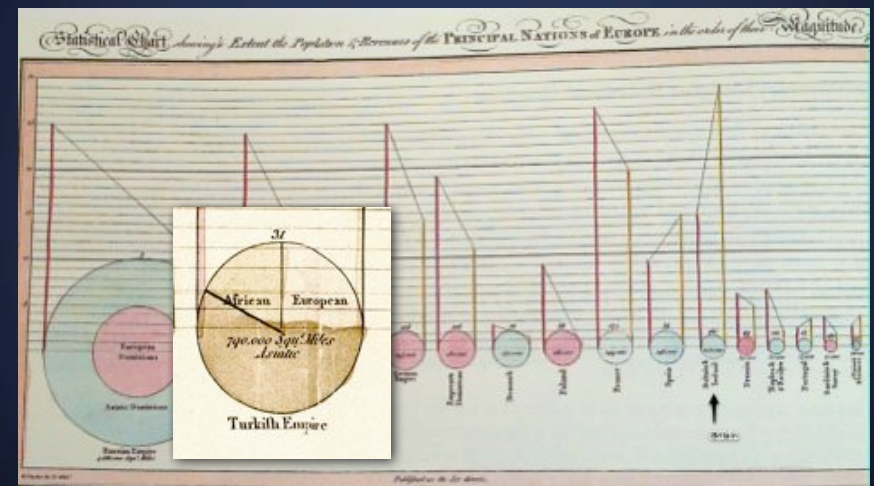
William Playfair

is credited with the invention of the pie chart. (1801)



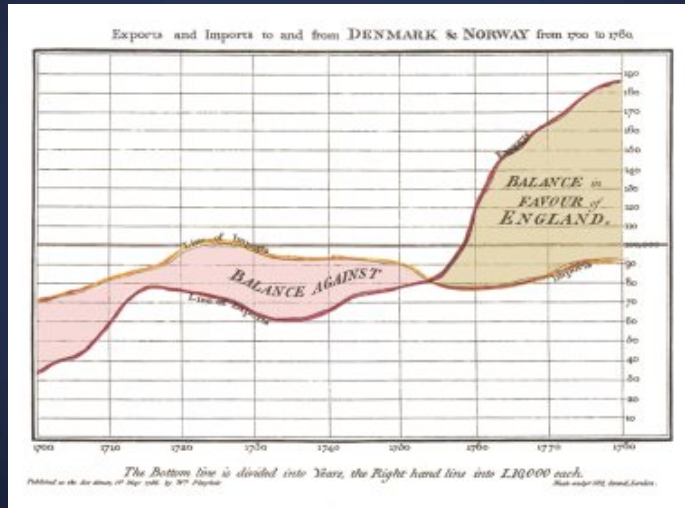
William Playfair

is credited with the invention of the pie chart. (1801)



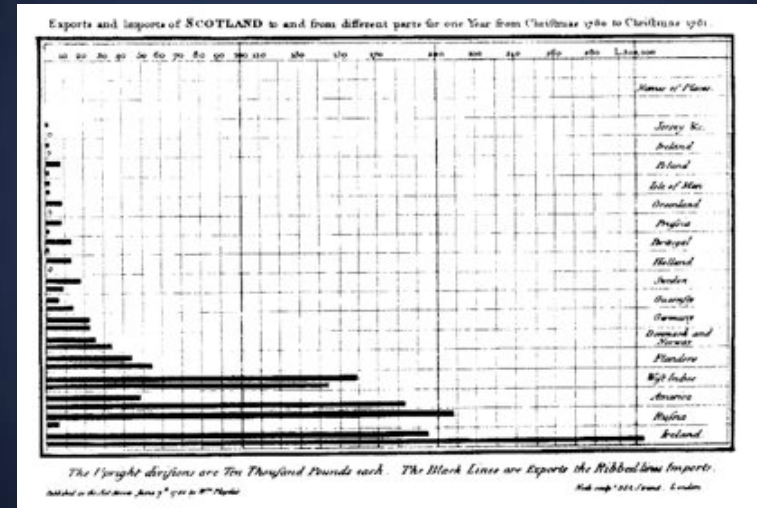
William Playfair

... and the line / area chart based on time series



William Playfair

... and the bar chart



Willard Cope Brinton

Extensive collection of charts in his publication (1939)



<http://www.flickr.com/photos/mstoll/3593343148/in/set-72157619121678127/>

Willard Cope Brinton

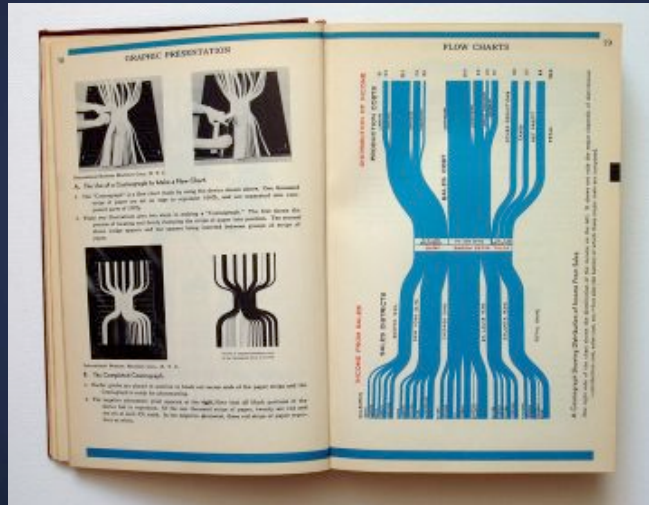
Extensive collection of charts in his publication (1939)



<http://www.flickr.com/photos/mstoll/3593343148/in/set-72157619121678127/>

Willard Cope Brinton

Extensive collection of charts in his publication (1939)



<http://www.flickr.com/photos/mstoll/3593319148/sizes/l/in/set-72157619121678127/>

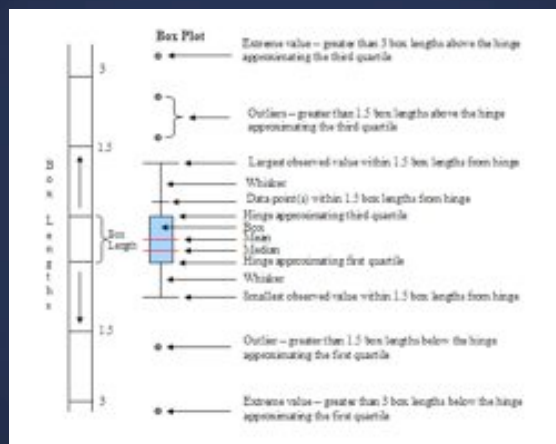
Semiology of Data

Jacques Bertin (1967)

	Points	Lines	Areas	Best to show
Shape		possible, but too weird to show	cartogram	qualitative differences
Size			cartogram	quantitative differences
Color Hue				qualitative differences
Color Value				quantitative differences
Color Intensity				qualitative differences
Texture				qualitative & quantitative differences

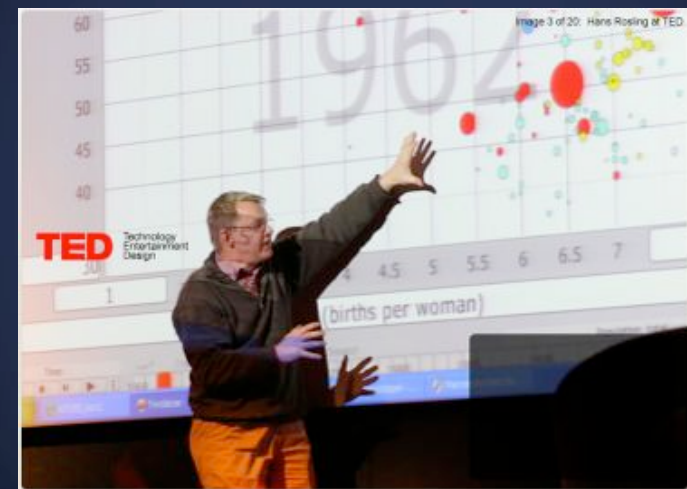
Box-And-Whisker Plot

Tukey (1977)



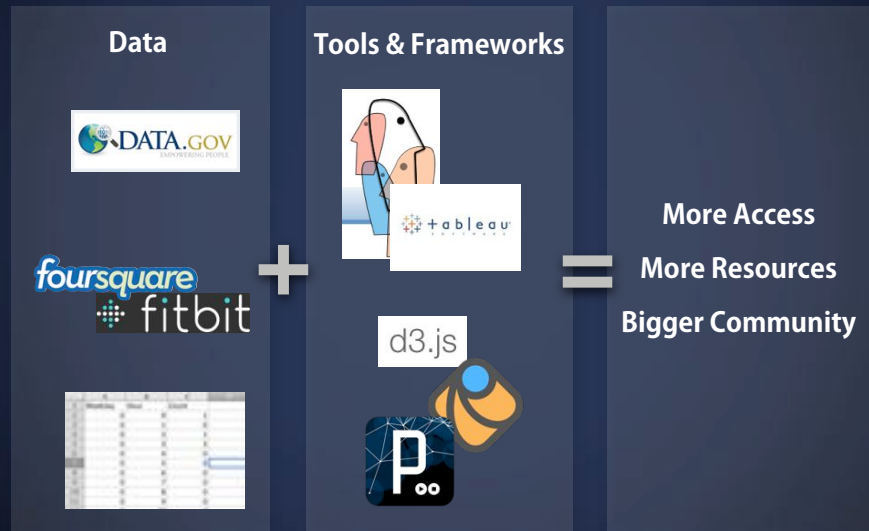
Visualizations Are Mainstream

Hans Rosling's famous TED talk in 2007



http://www.ted.com/talks/hans_rosling_reveals_new_insights_on_poverty.html

Today



Why do we create Visualizations?

Three Functions

Record

Analyze

Communicate

Record

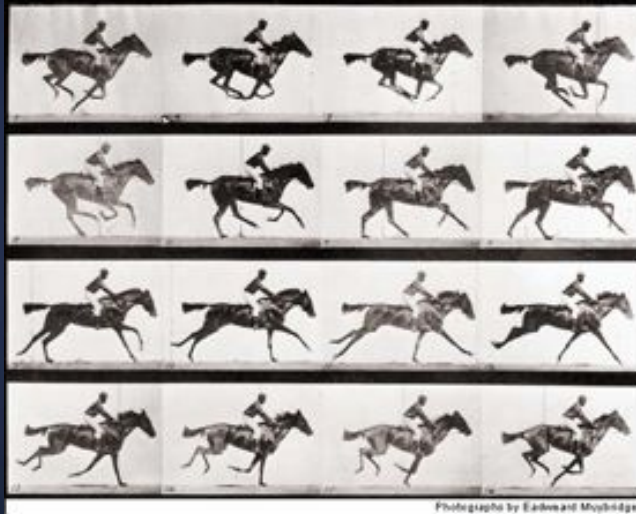
Phases of The Moon



<http://ganymede.nmsu.edu/tharriso/ast110/class05.html>

Record

Galloping Horse (Eadweard Muybridge, 1872)



Record

Galloping Horse (Mike Stimpson, 2010)



Record



Analyze

Cholera Outbreak
(John Snow, 1854)



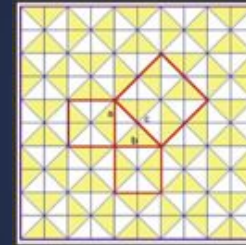
Analyze

Cholera Outbreak
(John Snow, 1854)



Analyze

Graphical calculation: Visual Proofs



Pythagorean Theorem

Chinese proof by dissection

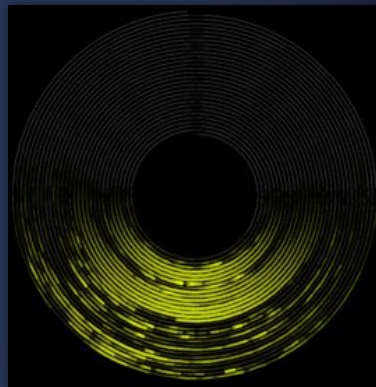
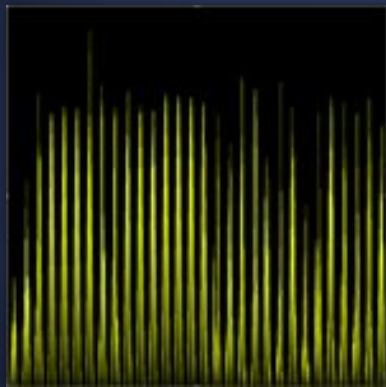


Sum of odd numbers

$$1 + 3 + 5 + 7 + 9 = 5^2$$

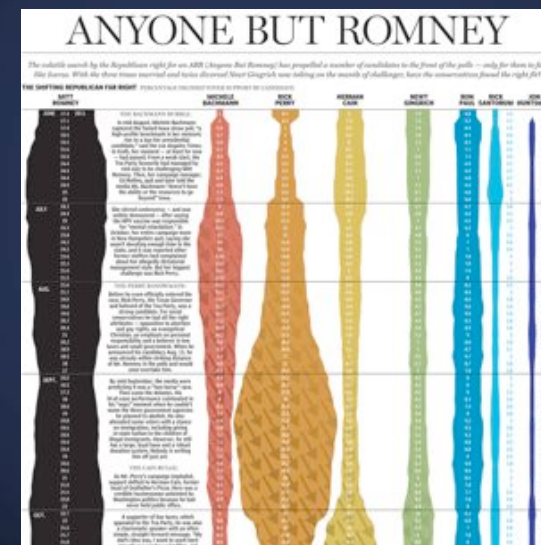
Analyze

Visualizing Time Series on Spirals (Weber et al., 2001)

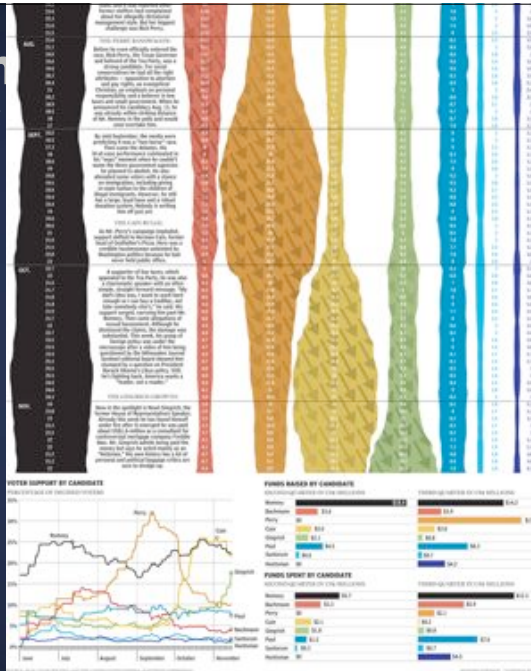


Communicate

"Anyone but Romney" (National Post 2011)

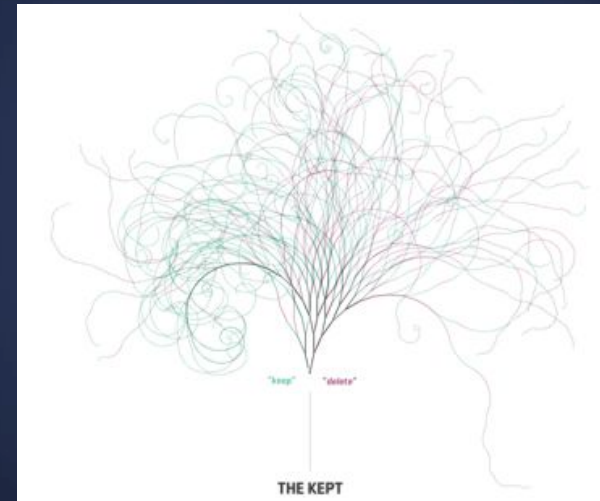


Comm
"Anyone but



Communicate

Visualizing Deleting Discussions on Wikipedia



<http://notabilia.net/>

You?
Introductions

This Semester

Course Goals

Know the foundations

Learn the principles of information visualization

Critique

Learn how to critique and evaluate information visualization systems

Build

Build your own visualizations

Apply theoretical foundations

Syllabus and Class Website

<http://blogs.ischool.berkeley.edu/i247s12/>

Requirements

Assignments

3 Assignments throughout the course of the semester

30%

Final Project

Build an interactive information visualization in groups

50%

Labs / Participation

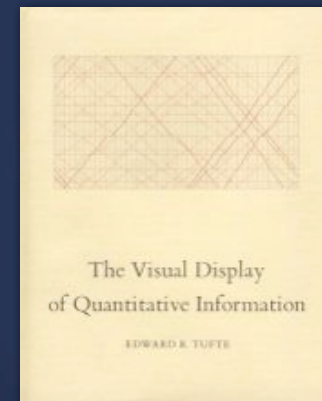
Present and critique a visualization in class

Attend and participate in labs

Participate in class discussions

20%

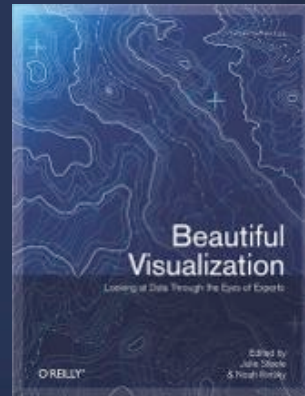
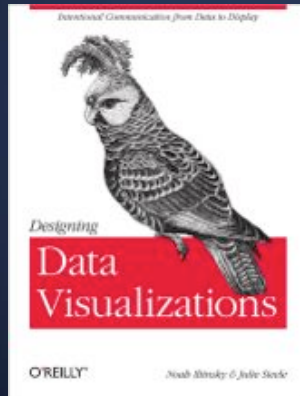
Required Textbook



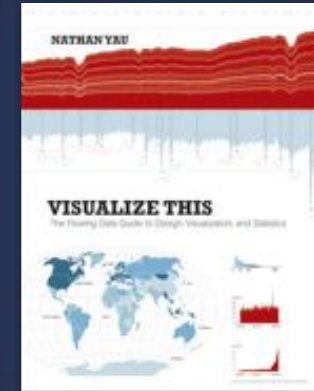
Other Textbooks

Selected chapters.

Through safaribooksonline.com (UC Berkeley Library Proxy)



Also Recommended



Software

Free license of Tableau for the course of the semester

Windows only

Check your email for instructions



Contact

Office Hours

Michael

Tuesdays 4-5PM
Room 211

DH

By Appointment

Email

Michael

mike@ischool.berkeley.edu

DH

donghyuk-jung@ischool.berkeley.edu

Recap

Next Week

From Data to Visualization