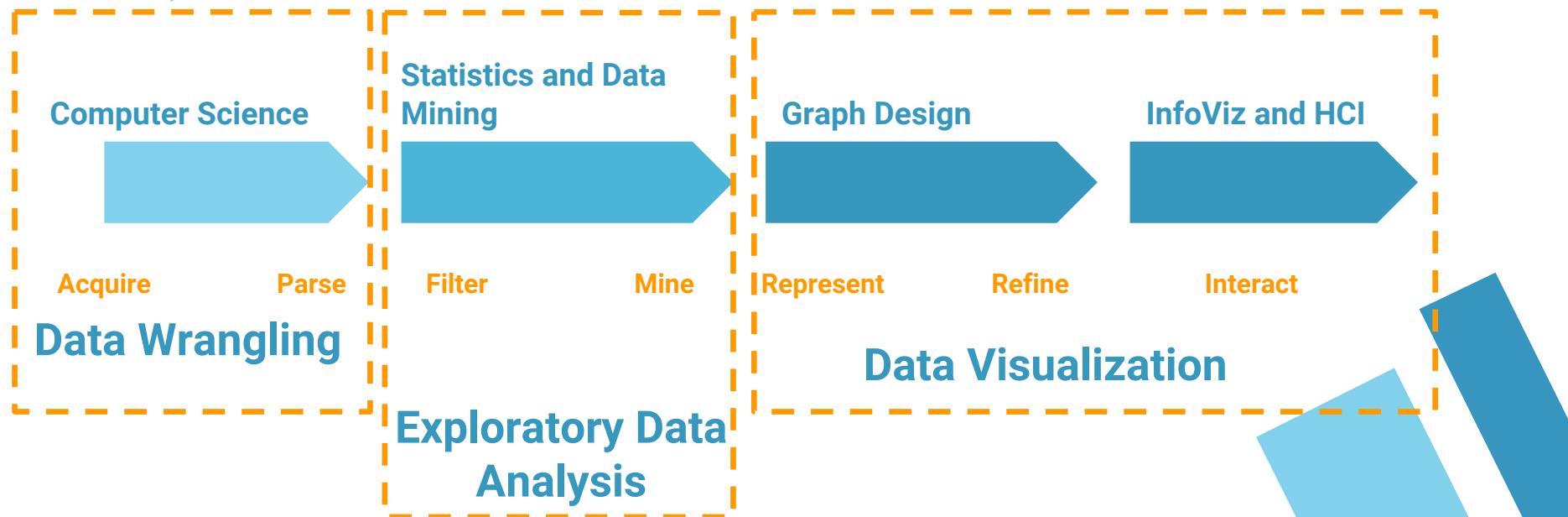


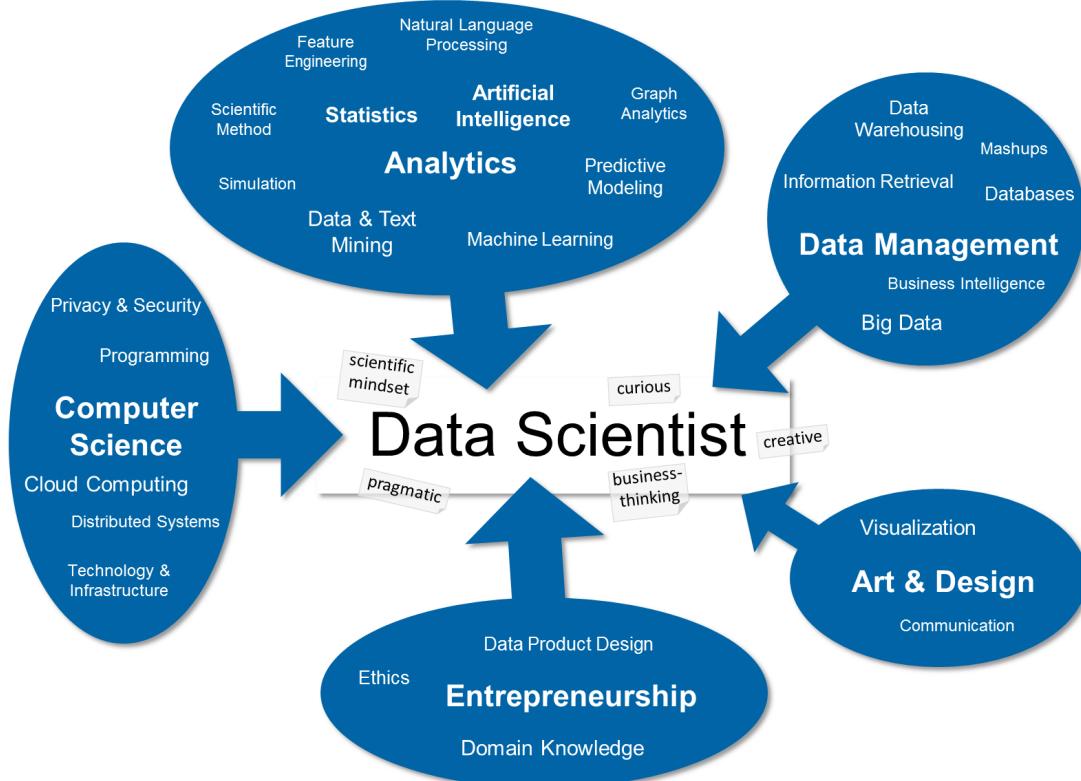


Let's talk Data Science

Data Science Process



Data Scientist



« Explatory » Visualization



All visualization are 'explatory'

Explanatory

- » Try to explain something to the viewer
- » Tell a story to an audience
- » Something specific you want to communicate

» Exploratory

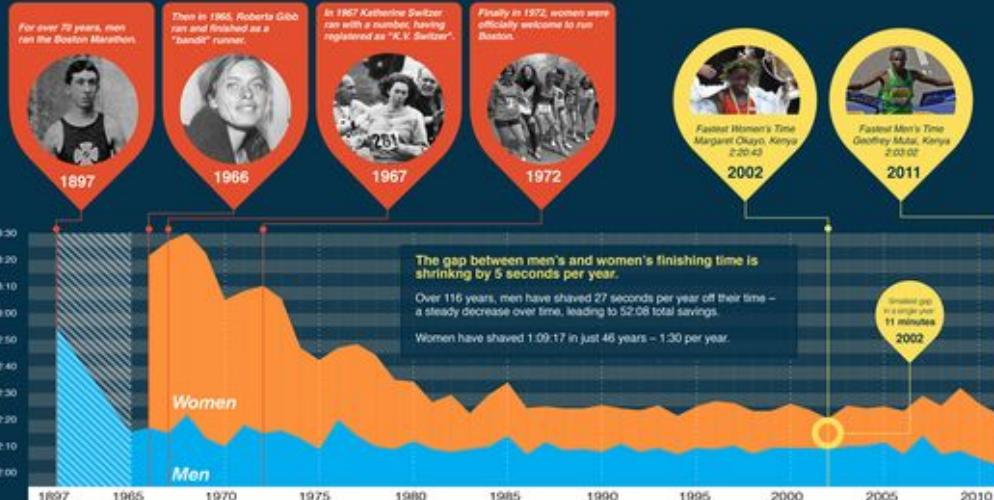
- » Analysis you do to get familiar with your data
- » Trying to validate or not an hypothesis or a question



« Exploratory is the process of turning over 100 rocks to find perhaps 1 or 2 precious gemstones »

THE BOSTON MARATHON: WOMEN ARE CLOSING THE GAP

Women got a late start to the Boston Marathon, but they've been making up time ever since – literally. While the men have had two course records in two years – shaving several minutes off the previous record times, women have overall done a much faster job of improving speed and race performance. If the trend continues, women will catch up to the men by about 2035.



Despite It Being “Too Strenuous For Women” They Find a Way to Finish the Race

Long distance running was long denied to women. One reason was that it was felt to be “too strenuous” for women. One might expect finish rates to reflect this – that more women would quit the race than men. While this was somewhat true in the early years, the data shows that finish rates are only slightly higher for men – and that gap is narrowing every year.



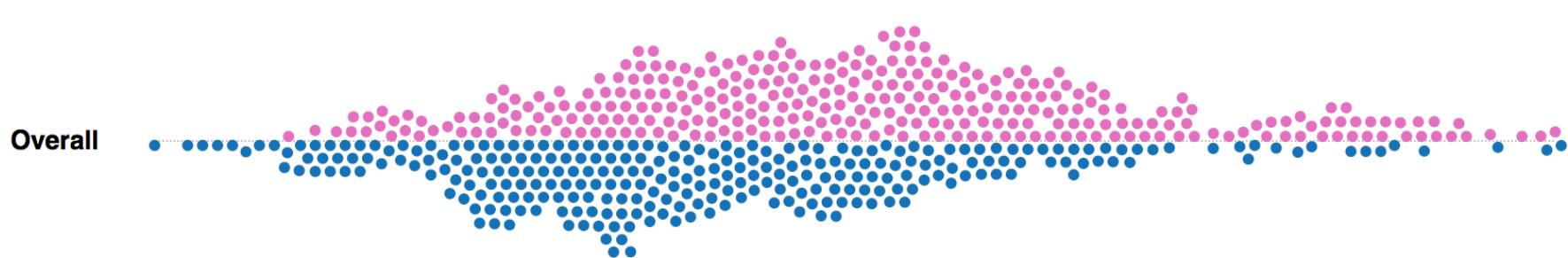


Overall Results

Age Group Results

Find runners by name...

Net Finish Time 1.19.11 | 1.30.00 | 1.40.00 | 1.50.00 | 2.00.00 | 2.10.00 | 2.20.00 | 2.30.00 | 2.40.00 | 2.55.50 |



● Female Finisher ● Male Finisher
Hover over a runner to view details

2013 Ashland Half Marathon

More Interactive Race Results by Michael Barry

<http://msbarry.github.io/raceviz/2013-ashland-half-marathon>



Nobel Prizes and laureates, 1901-2012

Visualized for each laureate per category, year the prize was awarded, and age of the recipient at the time. Visualized for each category are grade level, principal academic affiliations, and principal hometowns of the laureates.

How to read it

Each dot represents a Nobel laureate; each recipient is positioned according to the year the prize was awarded (x axis) and age of the person at the moment the award was made (y axis).

average age for
each for each
CATEGORY
average age
of Nobel laureate

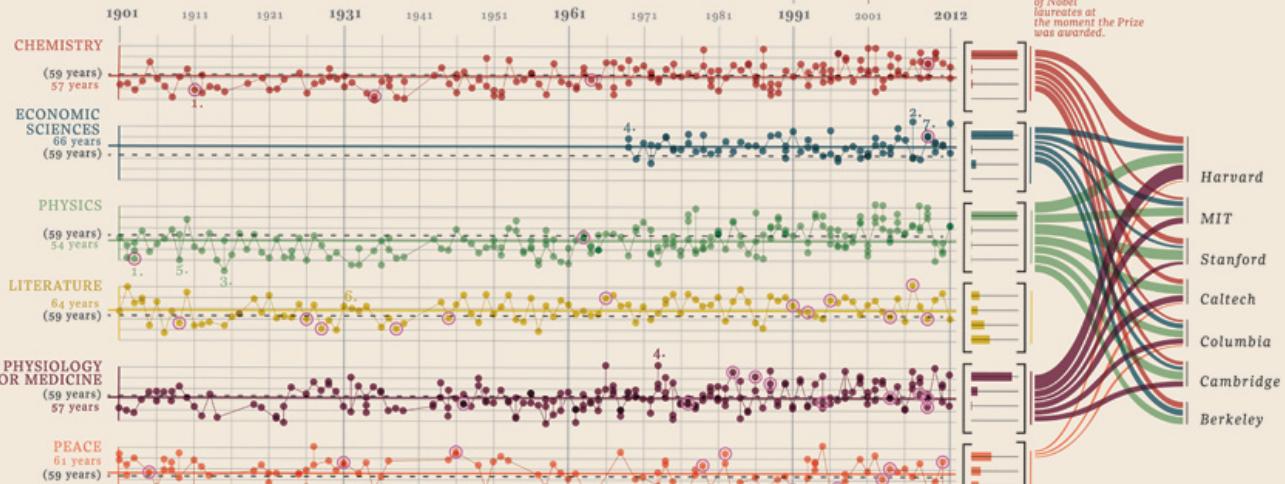
age
time trend

Nobel
awarded to
more than one
person
in-depth
examination
● man
● woman

grade
level

PhD
master
bachelor
no degree

Principal
university
affiliations
of Nobel
laureates at
the moment the Prize
was awarded.



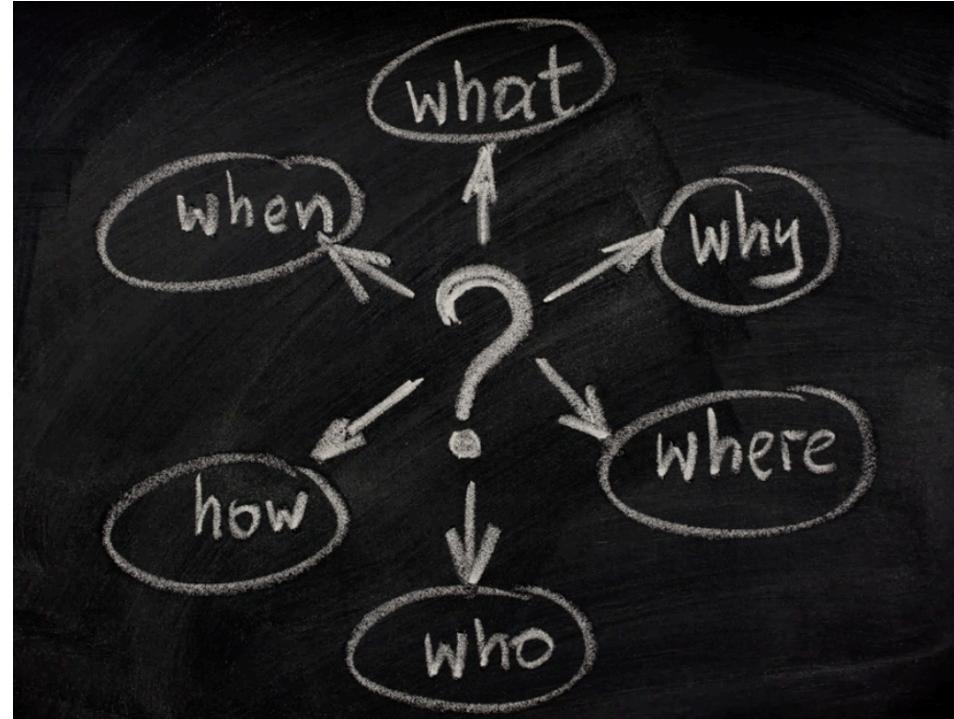
principal hometowns of laureates



Unveiling Information Hierarchy

The 6 Ws

- » Great way to organize and think about any story.



The 6 Ws – Hospital Use Case

Hospital Pricing Data

» Where can I go for a specific treatment at a decent price
AND good quality?

Applying the 6 Ws

W	Status
Who	Granular Answer
What	How I'll judge
When	
Where	Answer
Why	
How	

The 6 Ws – Hospital Use Case

WHAT

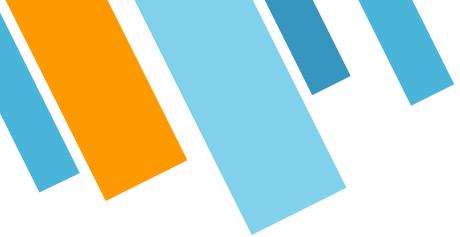
Price
Quality

WHERE

City

WHERE

Hospital



Three more Ws

What's Wanting? (Missing)

- » Keep calm and power on
- » Go back to the source
- » Generate more data

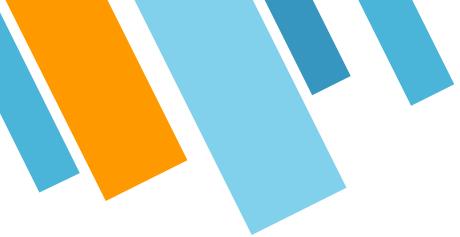
What in the World?

- » More data from other sources
- » Provide context
- » Complete the picture

What's Wild?



- » Unique visual approach
- » Unexpected contextual data
- » Out of the box interactive experience



Challenge

Nobel PricesLaureate

Static Infographic but still suitable for exploratory

Can you show findings out of this visualization?



Quizz

Obesity vs. Education

« Obesity is on average inversely proportional to the average education of the population »

Can you show the evidence for this assertion?

- » Use the Tableau Public dashboard or
- » The online version:
<http://www.vizwiz.com/2013/01/alberto-cairo-three-steps-to-become.html>



Quizz

Obesity vs. Education

- » What is the average percentage of obese people in all states? (*leave off the percent sign*)
 %

- » Which state has the largest percentage of its population that obtained a BA (Bachelor's degree or higher)? (*enter the state's two letter abbreviation*)

- » A majority of states have greater percentages of (*choose one*)

obese people
 educated people





THANKS!

Any questions?

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- 