

# ASSOCIATE OF SCIENCE IN DATA SCIENCE TECHNOLOGY

## OPEN HOUSE

PROF. PAMELA BRAUDA  
[pamela.brauda@fscj.edu](mailto:pamela.brauda@fscj.edu)

PROF. DAVID SINGLETARY  
[david.singletary@fscj.edu](mailto:david.singletary@fscj.edu)



# WHAT IS DATA SCIENCE

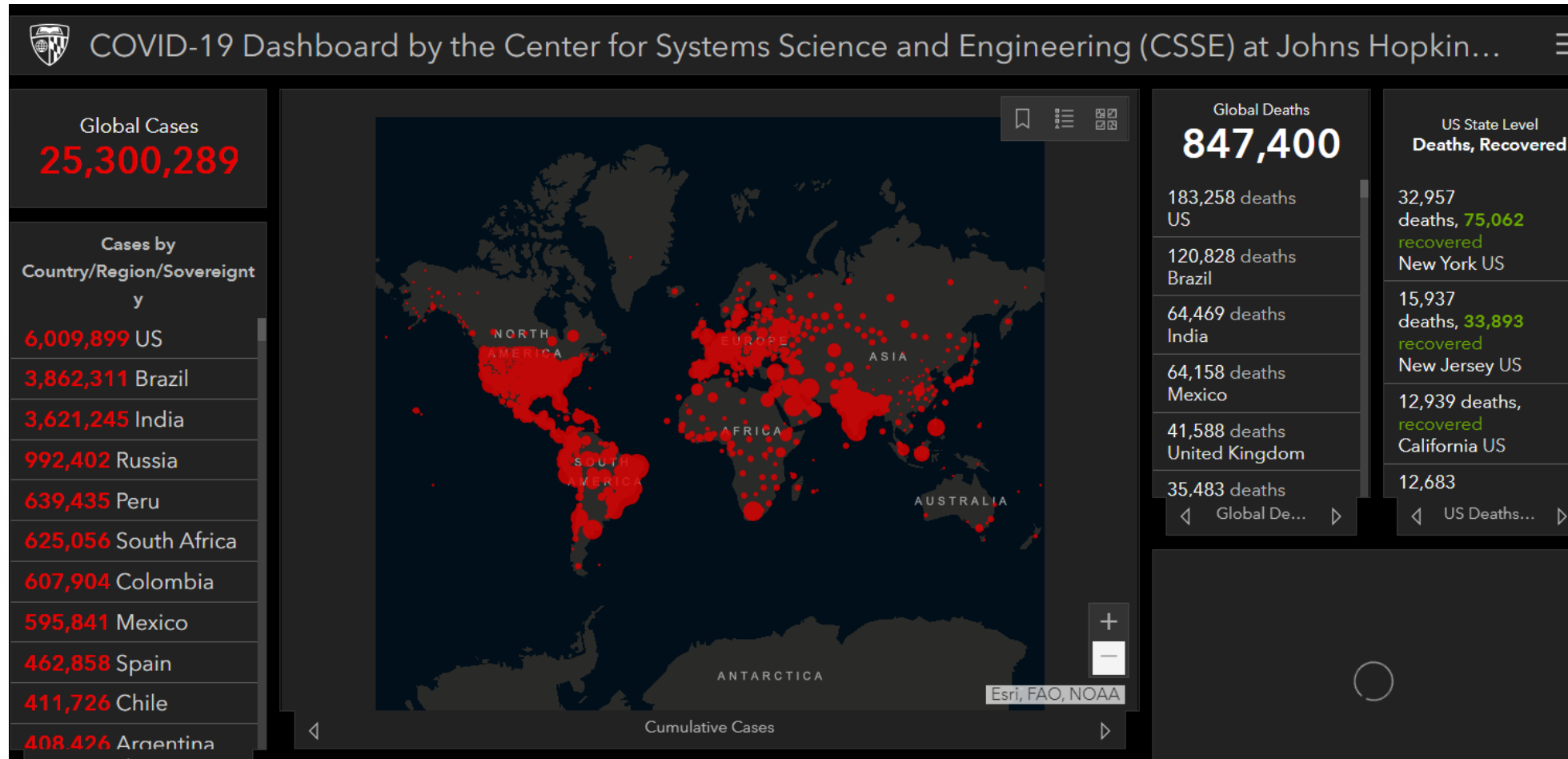
- Data Science uses special tools and techniques to analyze data (lots of data!) in order to
  - look for trends and patterns
  - diagnose problems
  - make predictions
- Data has to be "cleaned" – bad values must be removed or fixed -- in order to be analyzed
- Data scientists share their findings with other data scientists and anyone else who is interested

# EXAMPLES OF HOW DATA SCIENCE IS USED

- Determine review accuracy – how do you know if a restaurant review on Yelp or product review on Amazon is accurate?  
(Concept: Natural Language Processing)
- Sports analysis – what is the best strategy for 3<sup>rd</sup> and goal in football?  
(Concept: Data Visualization)
- Identifying images – identify dog breeds from large data sets containing images of dogs (Concept: Neural Networks)
- Identify fake news – determine if a news article is credible  
(Concept: Machine Learning)

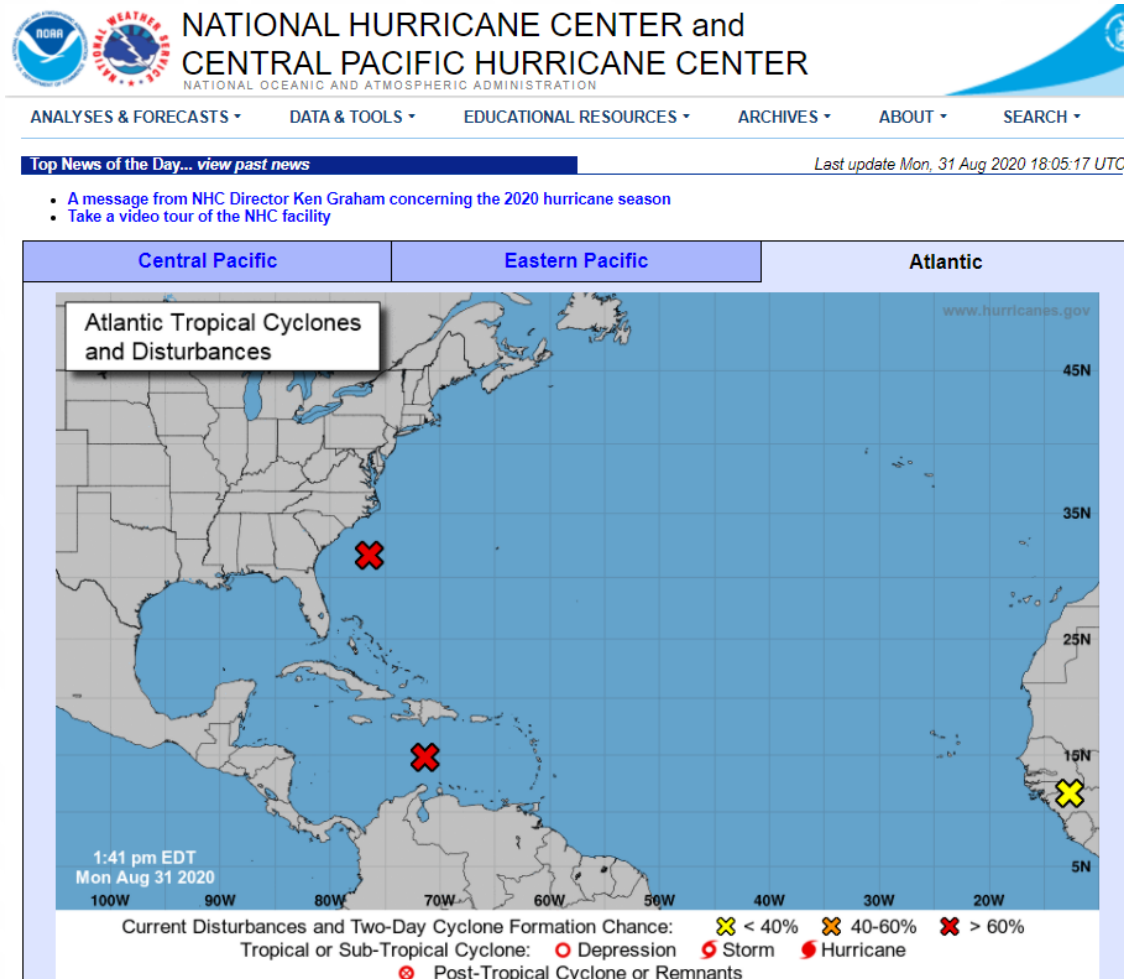
# EXAMPLES OF HOW DATA SCIENCE IS USED

- **Healthcare**, Weather, Banking and Finance, Manufacturing, and more



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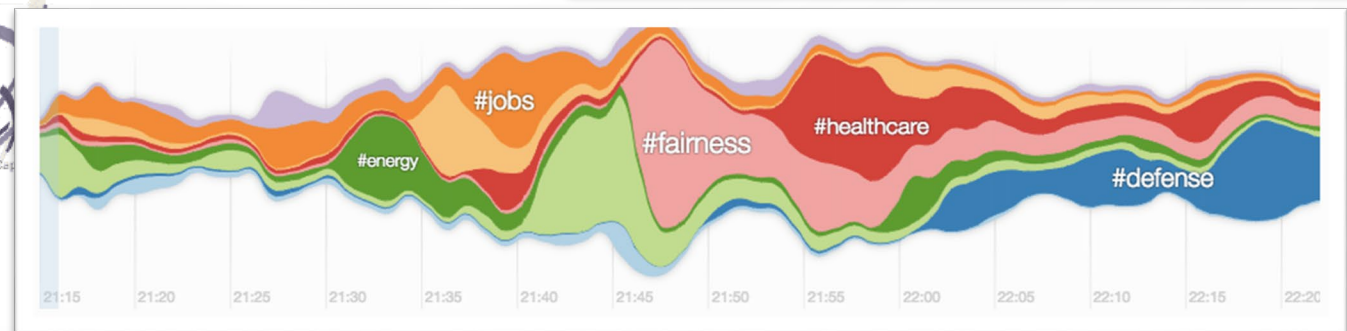
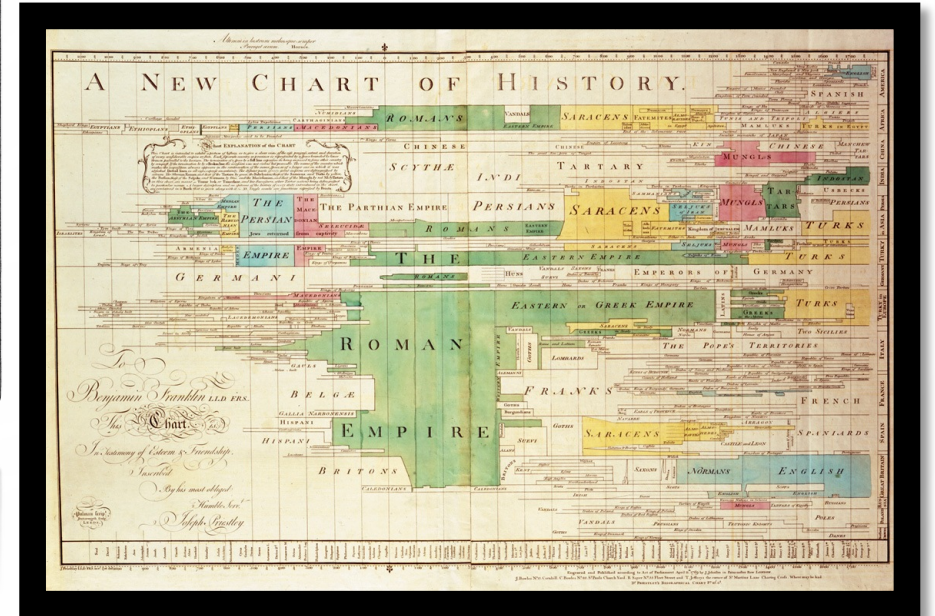
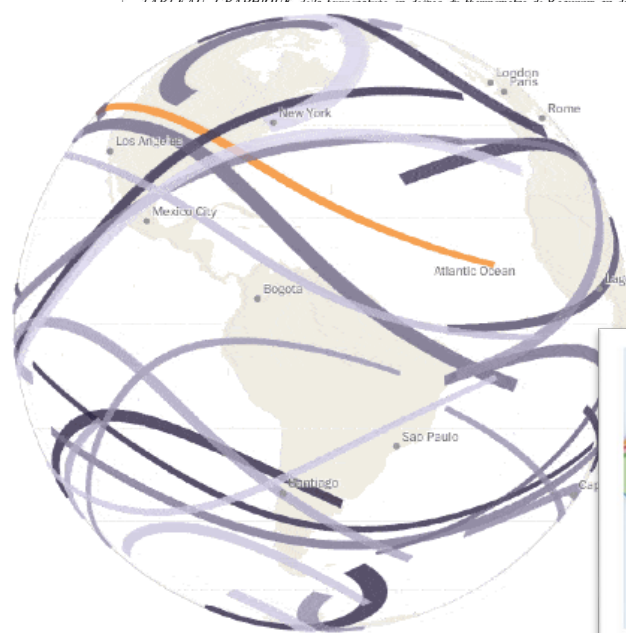
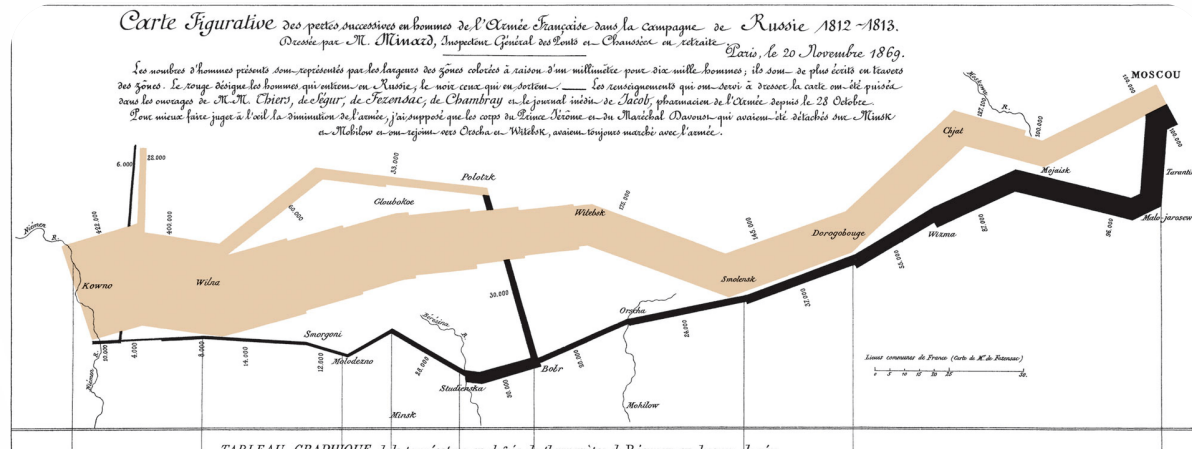
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# DATA VISUALIZATION: GOT ART?



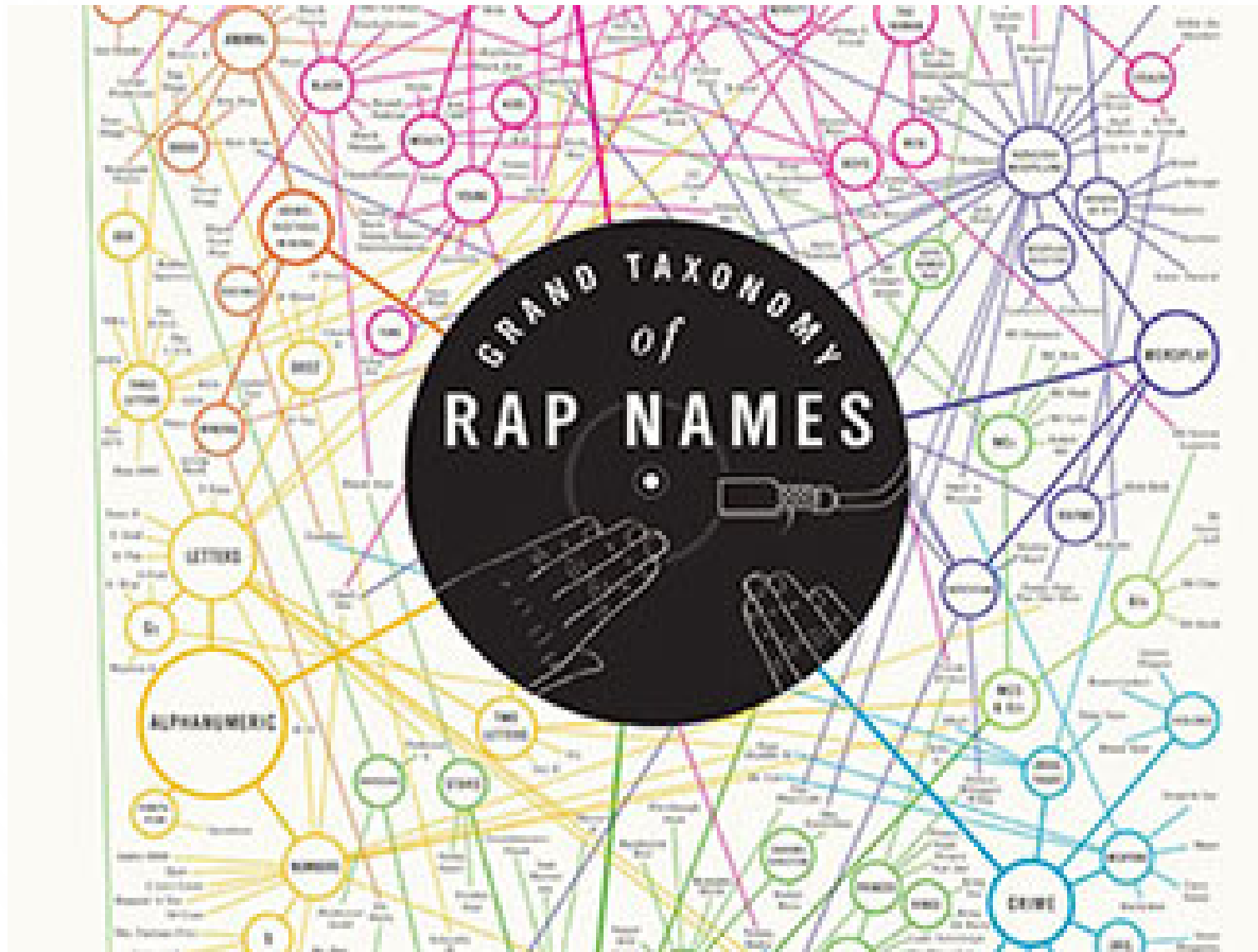
# DATA VISUALIZATION: STORYTELLING

BEFORE						
	A	B	C	D	E	F
1	Population (thousands)					
2	City	Country	2015	2020	2025	2050
3	Tokyo	Japan	36,090	36,370	36,400	36,400
4	Mumbai	India	20,070	21,950	24,050	26,385
5	Delhi	India	17,020	18,670	20,480	22,498
6	Dhaka	Bangladesh	14,800	17,020	19,420	22,015
7	São Paulo	Brasil	19,580	20,540	21,120	21,428
8	Ciudad de México	México	19,480	20,190	20,700	21,009
9	New York-Newark	US	19,440	19,970	20,370	20,628
10	Kolkata	India	15,580	17,040	18,710	20,560
11	Shanghai	China	15,790	17,210	18,470	19,412
12	Karachi	Pakistan	13,050	14,860	16,920	19,095
13	Kinshasa	D.R. Congo	9,050	11,310	13,880	16,762
14	Lagos	Nigeria	10,570	12,400	14,130	15,796
15	Total top 12		210,520	227,530	244,650	261,988
16	Source: Nordpl World Database of Large Cities, 2015					

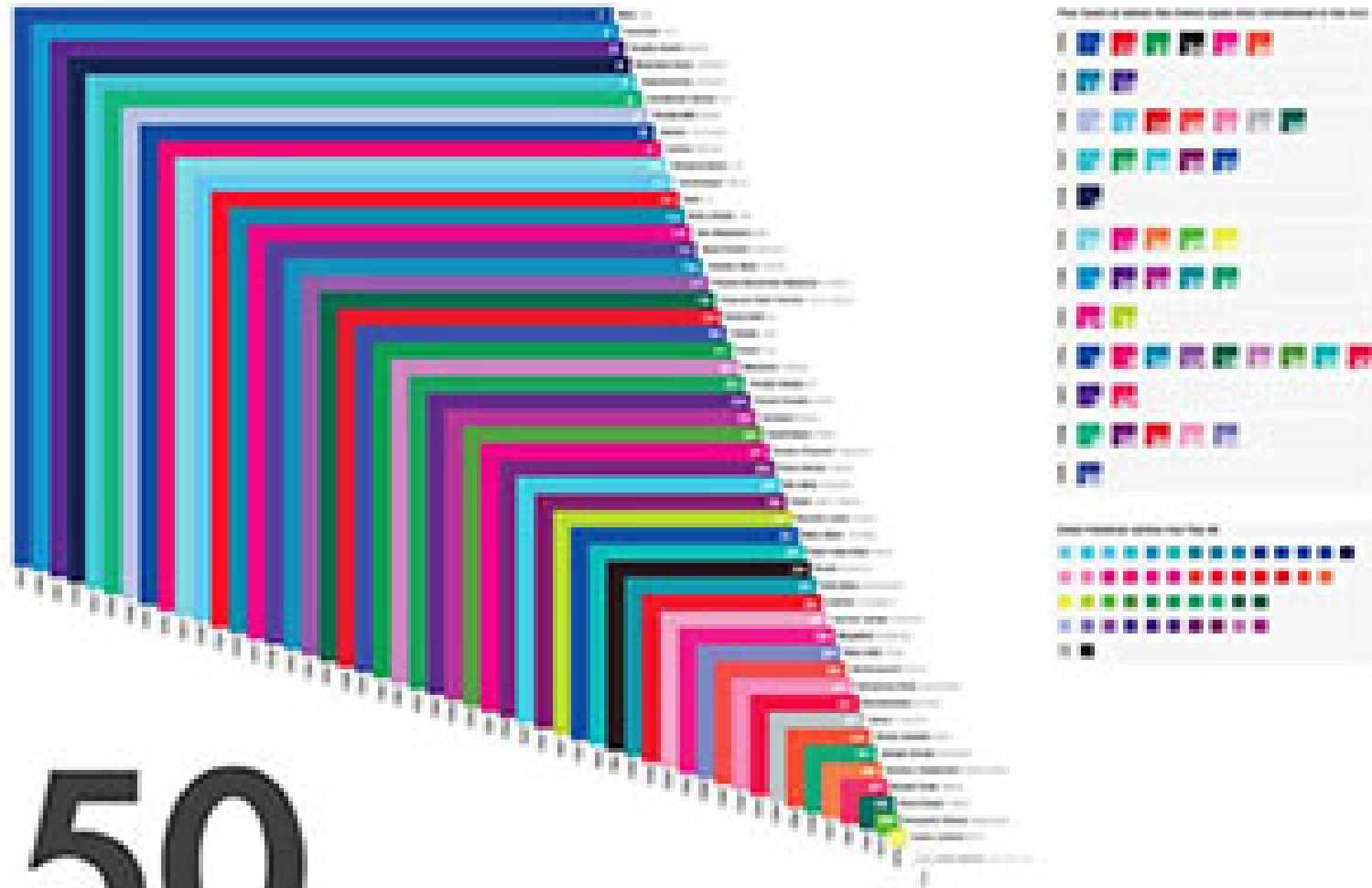




# DATA VISUALIZATION: EXAMINING RELATIONSHIPS



# DATA VISUALIZATION: INSPIRING QUESTIONS



**50** most popular  
**crayola crayon colors**

Why are these colors the most popular?

# FUN WITH DATA SCIENCE

**Ryan Timpe**  

@ryantimpe

Senior Data Scientist at The LEGO Group. [#rstats](#) {brickr} & bad opinions completely my own.



# DATA ANALYST AND DATA SCIENTIST SALARIES 2020

 Glassdoor

**\$39k–75k** per year

**Data Analyst**

Jacksonville, FL

 ZipRecruiter

**\$35k–96k** per year

**Data Analyst**

Jacksonville, FL

 PayScale

**\$40k–83k** per year

**Data Analyst**

Jacksonville, FL

 Glassdoor

**\$76.5k–125k** per year

**Data Scientist**

Jacksonville, FL

 Salary.com

**\$55.9k–64.6k** per year

**Data Scientist I**

Florida

 PayScale

**\$61.1k–135k** per year

**Data Scientist, IT**

United States

Source: Google Search "Data Analyst Salary", "Data Scientist Salary" 7/30/20

# TOOLS AND PROGRAMMING LANGUAGES

- Big data, analysis tools, and visualization tools:
  - SAS
  - SQL
  - Visualization Tools (Tableau, Power BI)
  - Hadoop
- Programming languages:
  - Python
  - R
  - Java
  - JavaScript/HTML



# SUGGESTED COURSE SEQUENCE MAP

<b>Term I</b>	ENC 1101 English Composition MAC 1105 College Algebra (or MGF1106 or MGF1107) CGS 1060C Introduction to Information Technology CNT 1015 Operating Systems Foundations
<b>Term II</b>	Humanities (Refer to General Education Requirements) COP 1000C Introduction to Computer Programming CNT 2001C Computer Networks and Telecommunications STA 2023 Elementary Statistics
<b>Term III</b>	CTS 1120C Fundamentals of Information Security CTS 2437C Introduction to SQL CGS 2512 Spreadsheet Concepts and Practices COP2800C Java 1
<b>Term IV</b>	Social Science (Refer to General Education Requirements) COP2034C Programming in Python COP2822C Web Technologies CAP2787C Data Warehousing
<b>Term V</b>	COP2073C Introduction to Statistical Programming with R CIS2349C Big Data with Hadoop CTS2456C Introduction to SAS CAP2741C Data Visualization

# PROFESSIONAL CERTIFICATIONS

Students will be prepared through their coursework to take exams which provide the following certifications:

- CompTIA Network+
- CompTIA Security+
- Oracle Java OCA SE8
- SAS Base Programming
- Certified Associate in Python Programming (PCAP)
- Microsoft Office Specialist / Excel
- Tableau Desktop Specialist
- Microsoft Certified Solutions Associate: BI Reporting

# EMBEDDED CERTIFICATES

- Two technical certificates are available within this degree program:
  - Data Science Technician I (6285) (T.C.)
  - Data Science Technician II (6287) (T.C.)
- Students may pursue the A.S. degree\* and earn technical certificates while completing the requirements for the degree, or pursue the certificates individually to develop or upgrade their skills in a particular field.
- \* recommended for financial aid purposes



# Thank you!

For more information, email [net@fscj.edu](mailto:net@fscj.edu) or contact us directly:

Prof. Pamela Brauda

[pamela.brauda@fscj.edu](mailto:pamela.brauda@fscj.edu)

Prof. David Singletary

[david.singletary@fscj.edu](mailto:david.singletary@fscj.edu)