

Does Your Organization Need Data Science

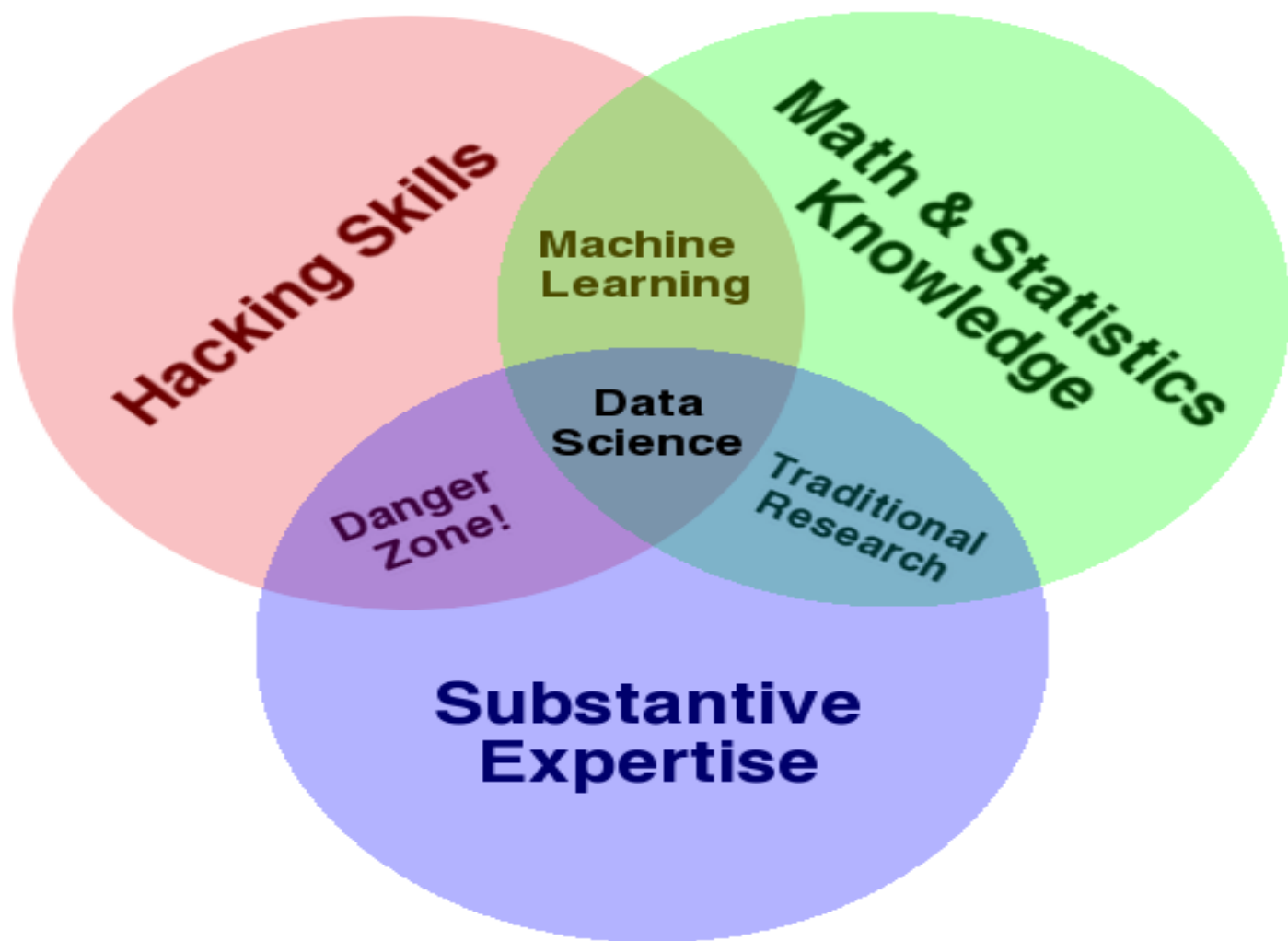
What is Data Science and Why Do We Need It?

What is Data Science?

Data Science is

- an interdisciplinary field
- about processes and systems
- to extract **knowledge** or insights from large volumes of **data**

Wikipedia



Machine Learning

“How can we build computer systems that automatically improve with experience, and what are the fundamental laws that govern all learning processes?”

-- Tom Mitchell, CMU



BIG DATA



VOLUME
DATA SIZE



VELOCITY
SPEED OF CHANGE

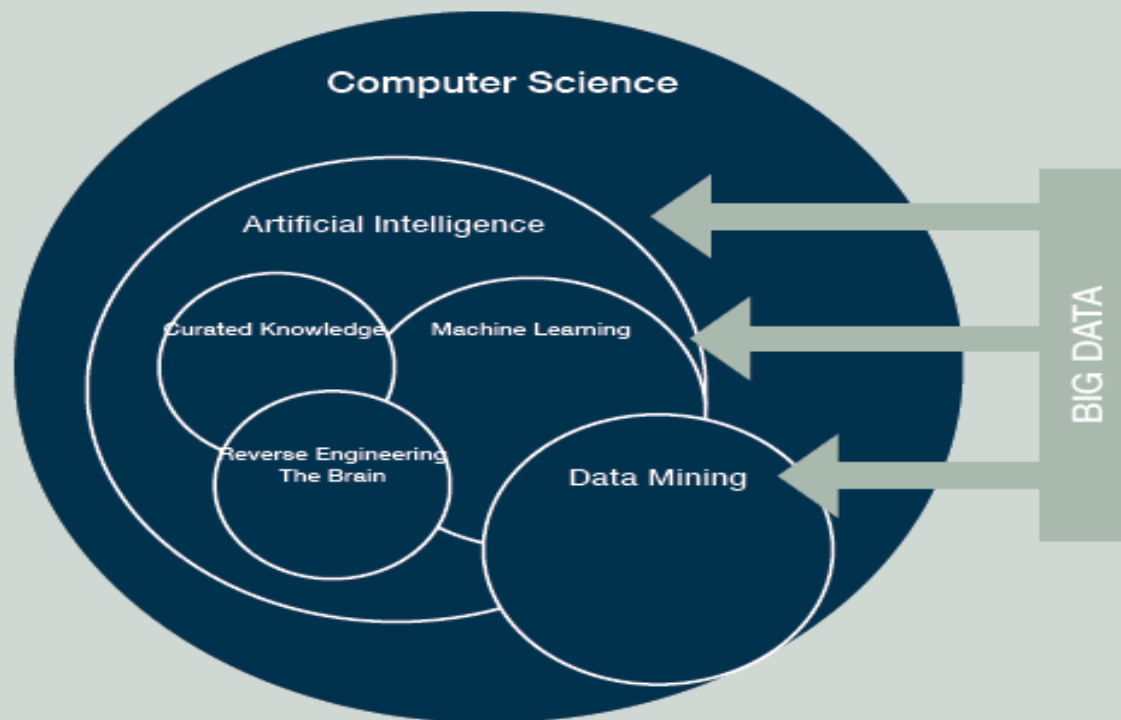


VARIETY
DIFFERENT FORMS
OF DATA SOURCES



VERACITY
UNCERTAINTY OF
DATA

**What are all
These Buzzwords?**



Kris Jack @_krisjack · 22h

Clarifying the buzzwords: [#ArtificialIntelligence](#) [#MachineLearning](#)
[#DataMining](#) [#BigData](#) [automatedtrader.net/articles/artif...](#)



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What Do Data Scientists Do?

10 Things [most] Data Scientists Do

- 1 Ask Good Questions. What is What...
...we don't know?
...we'd like to know?
- 2 Define and Test an Hypothesis. Run experiments
- 3 Scoop, Scrap, Sink, & Sample Business Relevant Data
- 4 Munge and Wrestle Data. Tame Data
- 5 Explore Data, Discover Data Playfully. Discover unknowns.
- 6 Model Data. Model Algorithms.
- 7 Understand Data Relationships
- 8 Tell the Machine How to Learn from Data
- 9 Create Data Products that Deliver Actionable Insight
- 10 Tell Relevant Business Stories from Data

Who Uses Data Science?



OUR LATEST TWEETS

The White House has named DJ Patil (@dpatil) as the first ever US Chief Data Scientist - ow.ly/fjUBF

Yesterday at 4:55 pm

Read @lifehacker's great interview with @DanMallinger on what it's like to work as a data scientist - ow.ly/JdO8a

February 17, 2015
11:00 pm

Holding data hostage through #ransomware has become a popular and reliable business model for criminals - ow.ly/10mbe

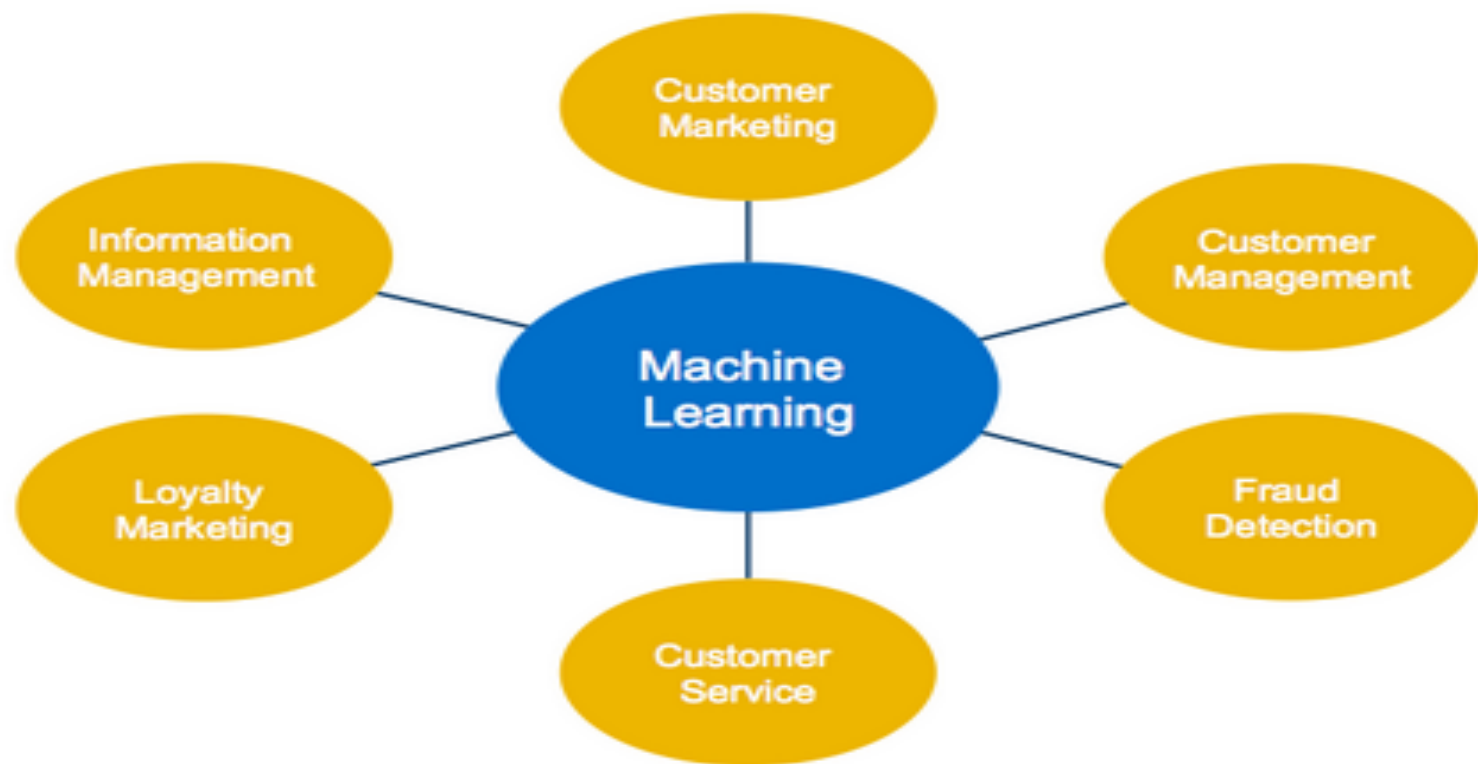
Data Science in the Real World

Data science is big deal across so many industries, from retail to government to biotech. So, what does data science look like in some of the big industries that rely on it?

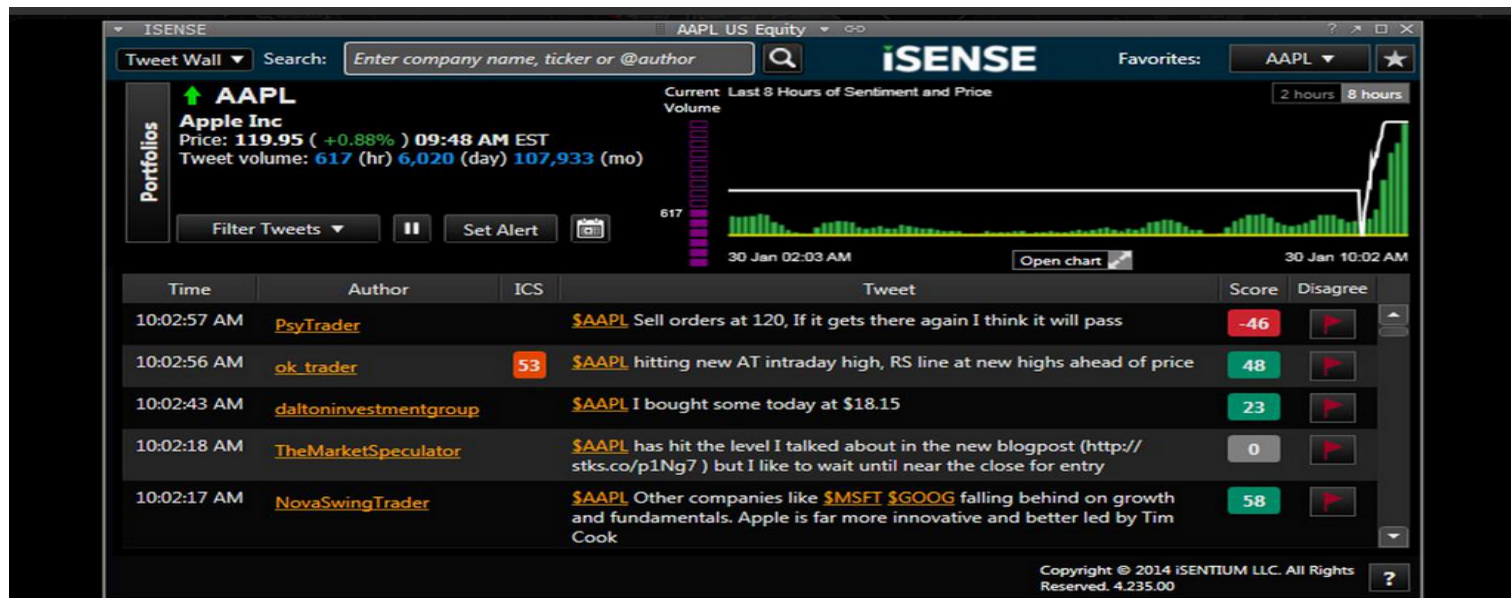
Check out our industry profiles. They'll give you an entertaining overview of the history and development of data science in that particular field, major players, and career paths that you can investigate.

- [Biotech](#)
- [Energy](#)
- [Finance](#)
- [Gaming and hospitality](#)
- [Government](#)
- [Health care](#)
- [Insurance](#)
- [Internet](#)
- [Manufacturing](#)
- [Pharmaceutical](#)
- [Retail](#)
- [Telecom](#)
- [Travel and transportation](#)
- [Utilities](#)

Machine Learning at American Express



How Wall Street Is Using Data Science



Gigaom @gigaom · Feb 9

How Wall Street is using Twitter to predict market events bit.ly/1AKOAVr



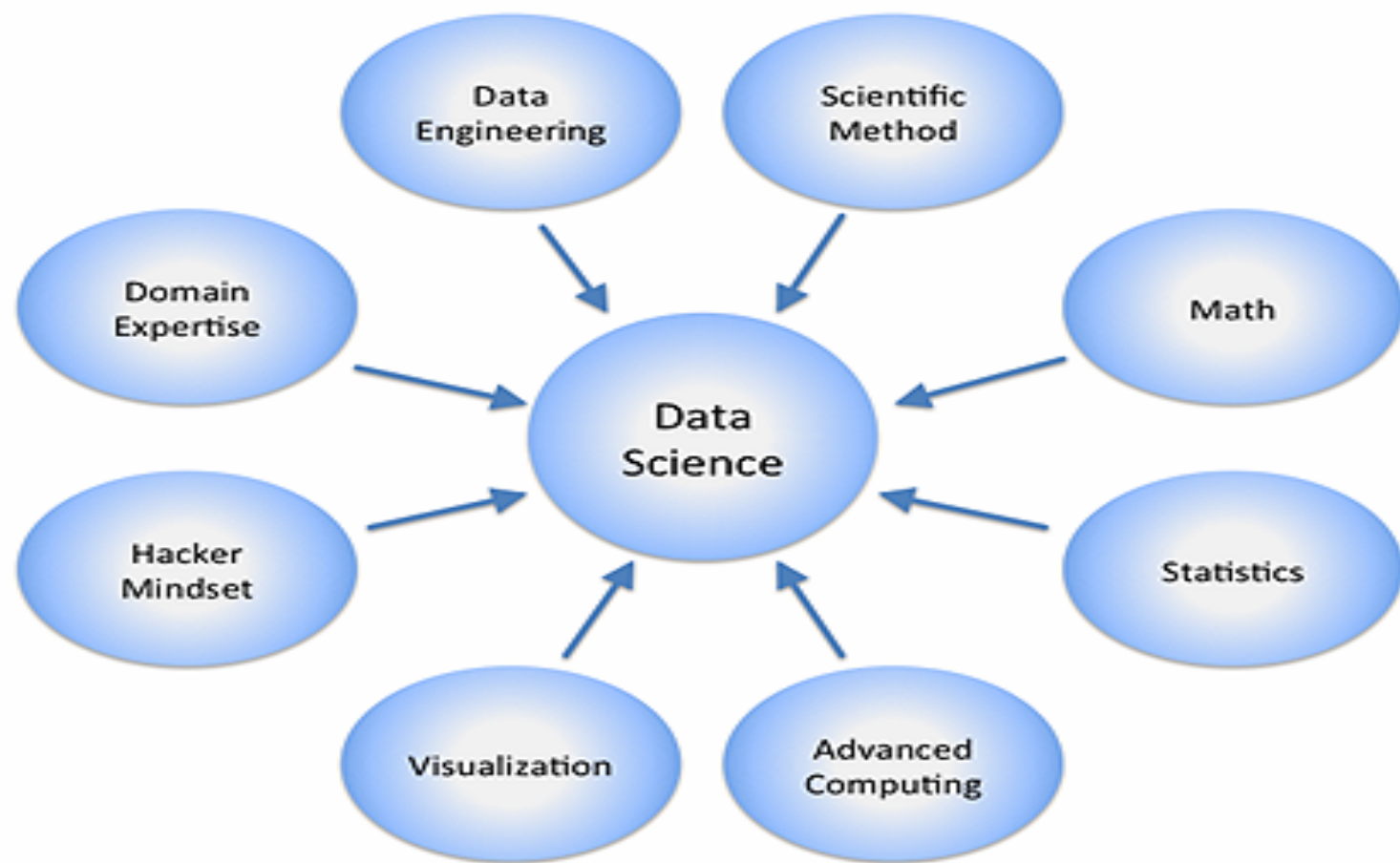
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What Skills
Do We Need?



**Is There
Demand?**



title: "big data", title:"data scientist", title: "data a

Find Trends

Find Jobs

what: job title, keywords or company

Job Trends

Job Trends

[Job Postings Per Capita](#)

[Job Market Competition](#)

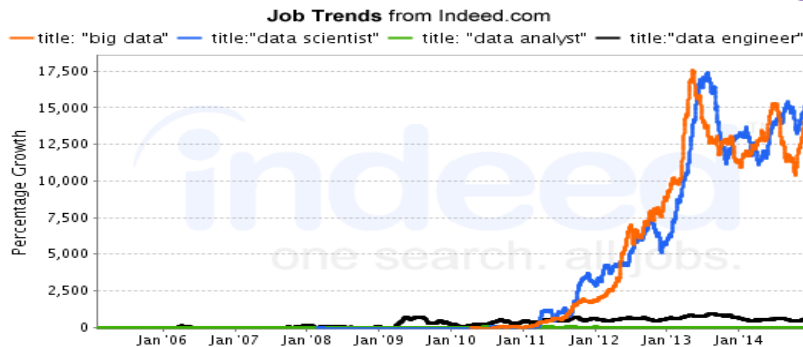
[Industry Employment Trends](#)

title: "big data", title:"data scientist", title: "data analyst", title:"data engineer" Job Trends

Scale: [Absolute](#) - [Relative](#)

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Indeed.com searches millions of jobs from thousands of job sites.

This job trends graph shows relative growth for jobs we find matching your search terms.

Find [Title: "big Data" jobs](#), [Title:"data Scientist" jobs](#), [Title: "data Analyst" jobs](#), [Title:"data Engineer" jobs](#)

Feel free to ► [share this graph](#)

Top Job Trends

1. [HTML5](#)
2. [MongoDB](#)
3. [iOS](#)
4. [Android](#)
5. [Mobile app](#)
6. [Puppet](#)
7. [Hadoop](#)
8. [jQuery](#)
9. [PaaS](#)
10. [Social Media](#)

A View of Jobs

Top 20 Candidate Locations					
Alternate Location	Job Volume *	Salary Range	Candidate Supply	Posting Period	Hiring Scale
San Jose-Sunnyvale-Santa Clara, CA	2,716	\$87K - 154K	18,000	49 days	75
San Francisco-Oakland-Fremont, CA	2,070	\$82K - 150K	21,000	47 days	87
Washington-Arlington-Alexandria, DC	2,053	\$82K - 144K	15,000	49 days	78
New York-Northern New Jersey-Long Island, NY	1,666	\$80K - 148K	27,000	44 days	76
Boston-Cambridge-Quincy, MA	1,181	\$73K - 138K	13,000	50 days	76
Seattle-Tacoma-Bellevue, WA	1,089	\$78K - 120K	14,000	53 days	81
Dallas-Fort Worth-Arlington, TX	776	\$65K - 128K	8,200	42 days	77
Chicago-Joliet-Naperville, IL	721	\$72K - 137K	11,000	46 days	79
Los Angeles-Long Beach-Santa Ana, CA	641	\$69K - 129K	12,000	47 days	70
Raleigh-Cary, NC	519	\$64K - 122K	2,500	47 days	78
Baltimore-Towson, MD	472	\$77K - 137K	4,100	56 days	84
Atlanta-Sandy Springs-Marietta, GA	424	\$74K - 136K	7,200	45 days	80
Minneapolis-St. Paul-Bloomington, MN	377	\$68K - 133K	3,200	45 days	77
Denver-Aurora-Ft. Collins, CO	355	\$66K - 117K	3,000	45 days	77

Top 20 Industries Hiring Big Data Expertise

Source: Wanted Analytics, 2014

