The 'Data' Gold Rush in Science Education

Jevin West
Information School
University of Washington

International Symposium on Advanced Future Studies
Kyoto University, Japan (Feb. 11, 2016)

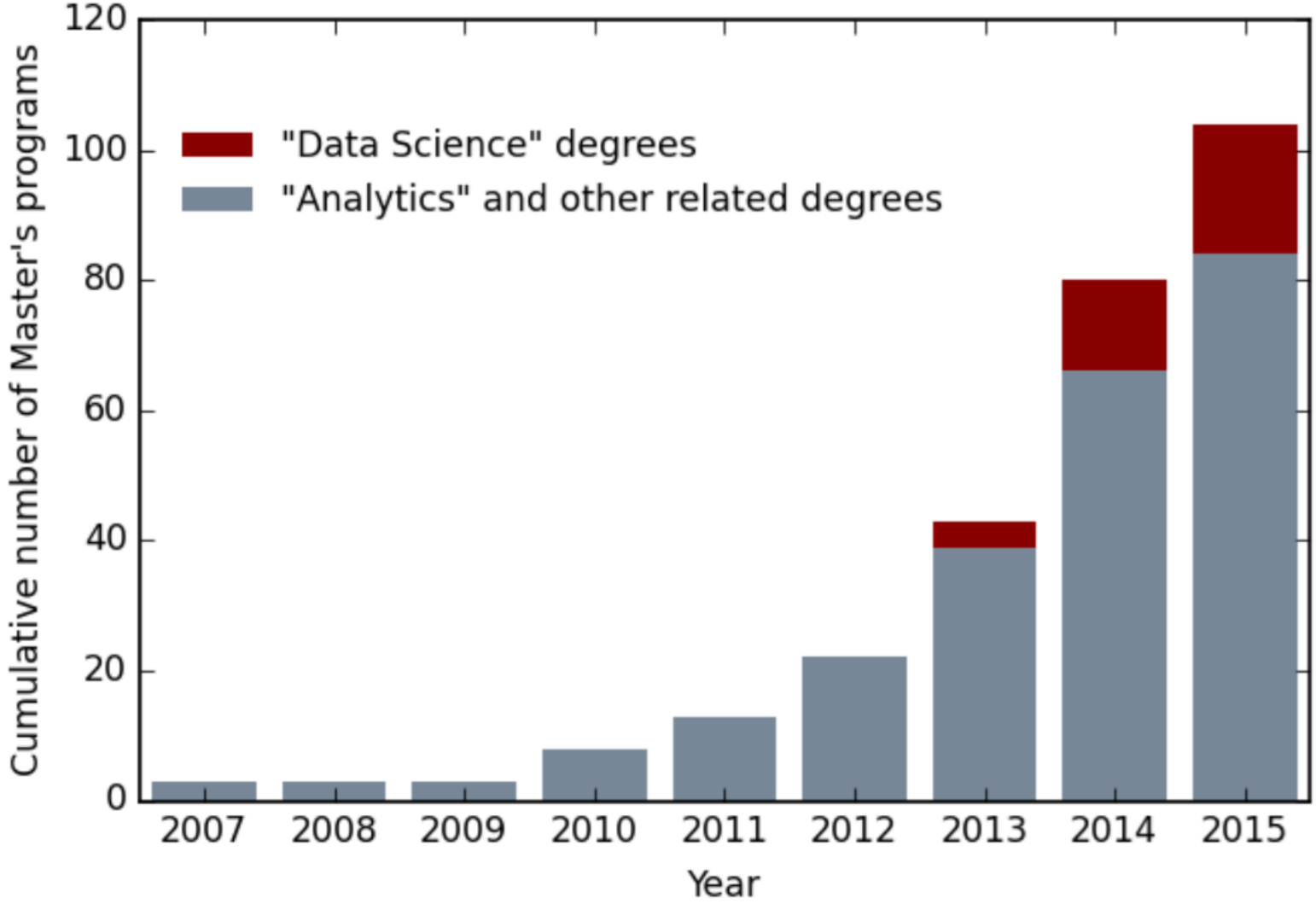
McKinsey Global Institute




June 2011

Big data: The next frontier for innovation, competition, and productivity

Data Science Degree Programs in the US



West and Portenoy (2016) The Data Gold Rush in Higher Education. *MIT Press*

Data from http://analytics.ncsu.edu/?page_id=4184

UNIVERSITY of WASHINGTON

MASTER OF SCIENCE IN DATA SCIENCE

Propel your career with big data skills, taught by world-class faculty from six top-ranked UW departments.

LEARN MORE

Master of Science in Data Science

The new Master of Science in Data Science at the University of Washington gives current and aspiring data science professionals the technical skills to turn large, messy data sets – or big

IMPORTANT DATES

February 16
Applications Open

‘There’s Gold in them thar hills’

College	Degree	Duration	Cost (r=resident)
Univ Denver	M.S. in Business Analytics	12-36 Mo	$69,500
New York Univ	M.S. in Business Analytics	12 Mo	$67,500
Carnegie Mellon Univ	M.I.S.M. (Business Intel. track)	16 Mo	$67,200
Southern Methodist Univ	M.S. in Applied Stats and Data Analytics	18-24 Mo	$65,600
Carnegie Mellon Univ	M.S. in Computational Data Science	16 Mo	$65,000
Northwestern Univ	M.S. in Analytics	15 Mo	$64,800
Univ Rochester	M.S. in Business Analytics	10 Mo	$62,700
Univ CA, Berkeley	Master of Information and Data Science (MIDS)	12-20 Mo	$60,000
IL Inst of Technology	M.S. in Marketing Analytics and Commun.	12-24 Mo	$58,000
Univ Miami	M.S. in Business Analytics	10 Mo	$57,100

	Median	Low to High [?]
Seattle, WA Area	n/a	Not enough employee data
National	**$117,500**	$93k – $148k

62 Salaries: 1–20 of 46 Job Titles

Sort by: Avg. Salary (high to low)

Salaries in USD	Avg. Salary	$110k $150k $190k
Senior Data Scientist – Netflix 1 Salary	n/a	$203k – $220k
Data Scientist – Groupon 1 Salary	n/a	$155k – $166k
Data Scientist – EBH Enterprises 2 Salaries	$155,326	$120k – $191k
Data Scientist – Live Nation 1 Salary	n/a	$145k – $155k
Data Scientist – Nokia 1 Salary	n/a	$134k – $146k
Data Scientist – GREE International 1 Salary	n/a	$133k – $142k
Senior Data Scientist – LinkedIn 7 Salaries	$136,871	$124k – $150k
Senior Data Scientist – Tapjoy 1 Salary	n/a	$130k – $141k
Data Scientist – Gerson Lehrman Group 1 Salary	n/a	$125k – $134k
Data Scientist – Apollo Group 2 Salaries	$122,360	$110k – $135k

An exercise in departmental coordination

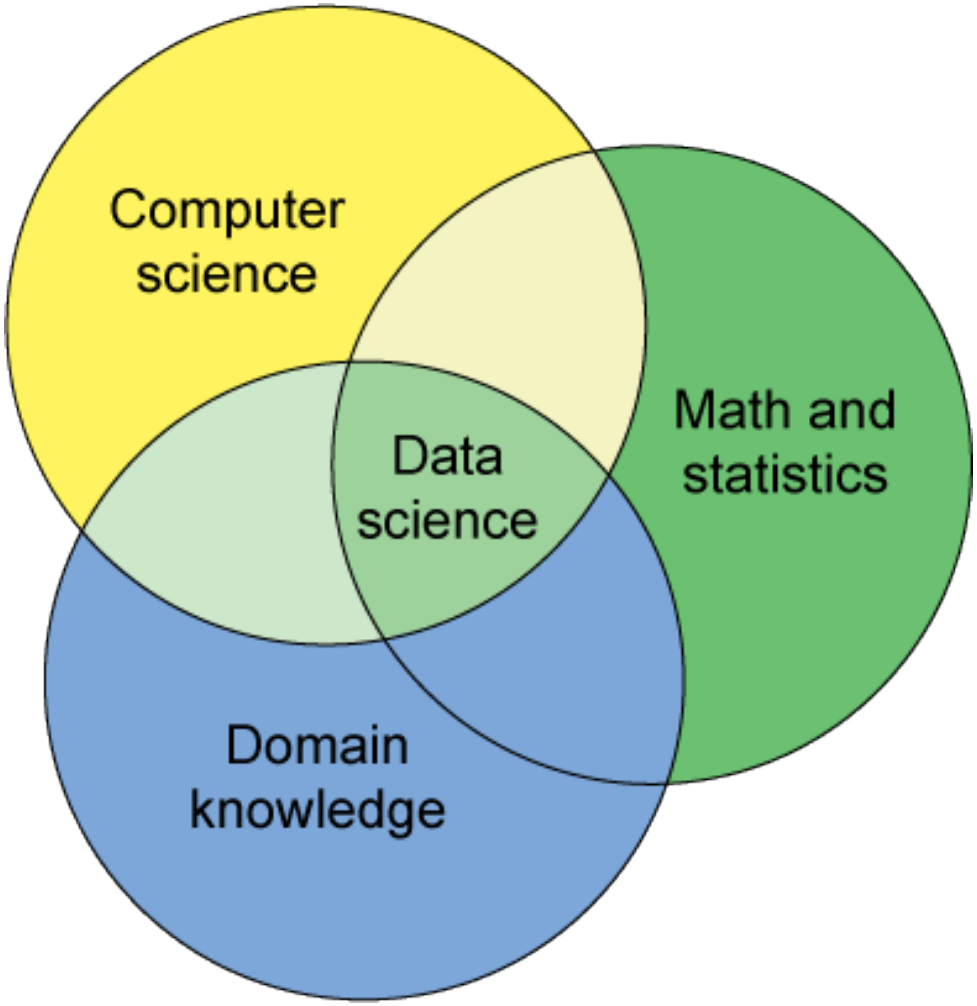


Image from IBM

An exercise in departmental coordination

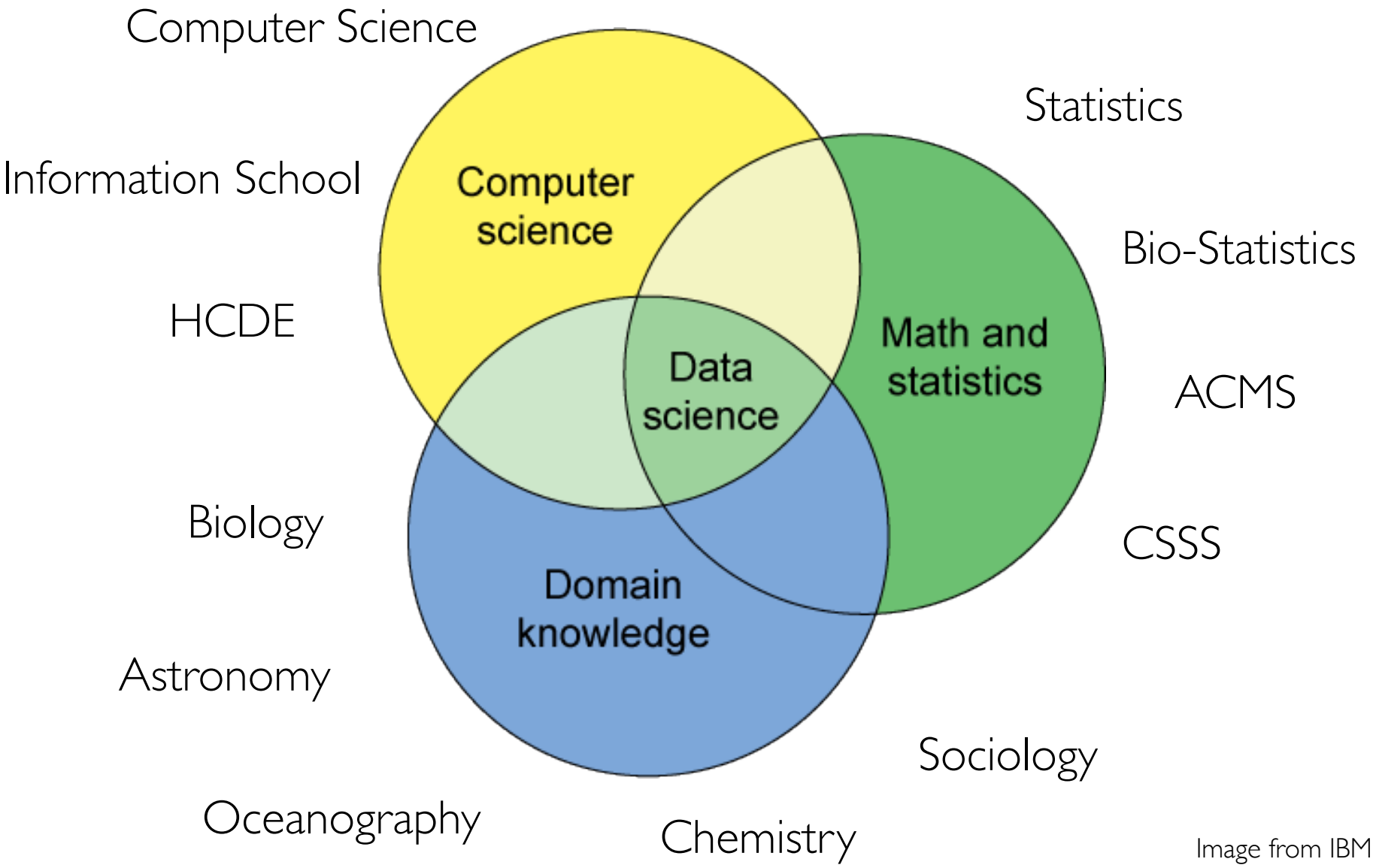
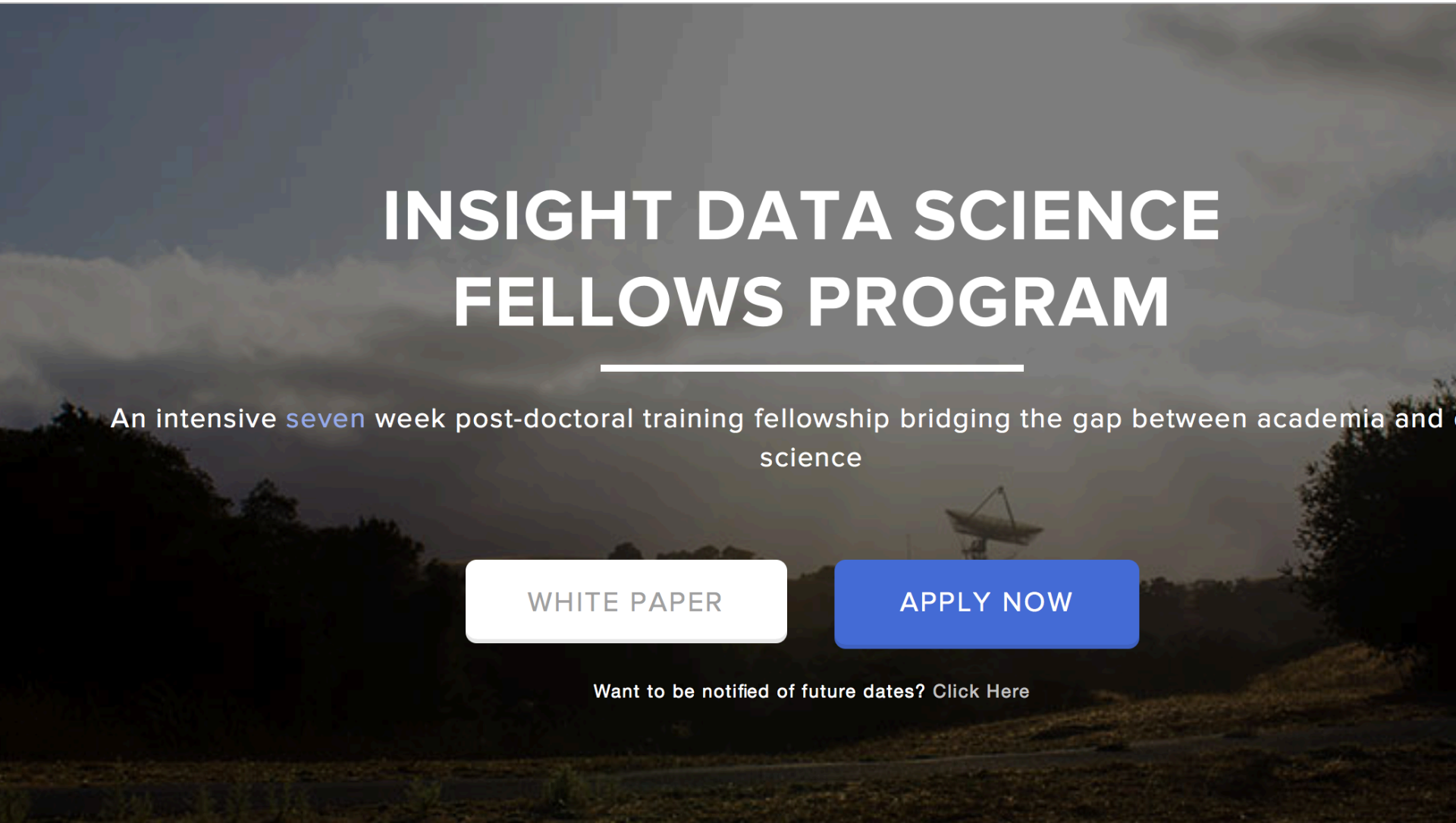


Image from IBM

Curriculum

- Coding and Software Development
- Databases and Cloud Computing
- Statistics and Probability
- Machine Learning
- Information Visualization
- Data Ethics and Privacy
- Domain Applications (Biology, Physics, Astronomy, Oceanography, Sociology)



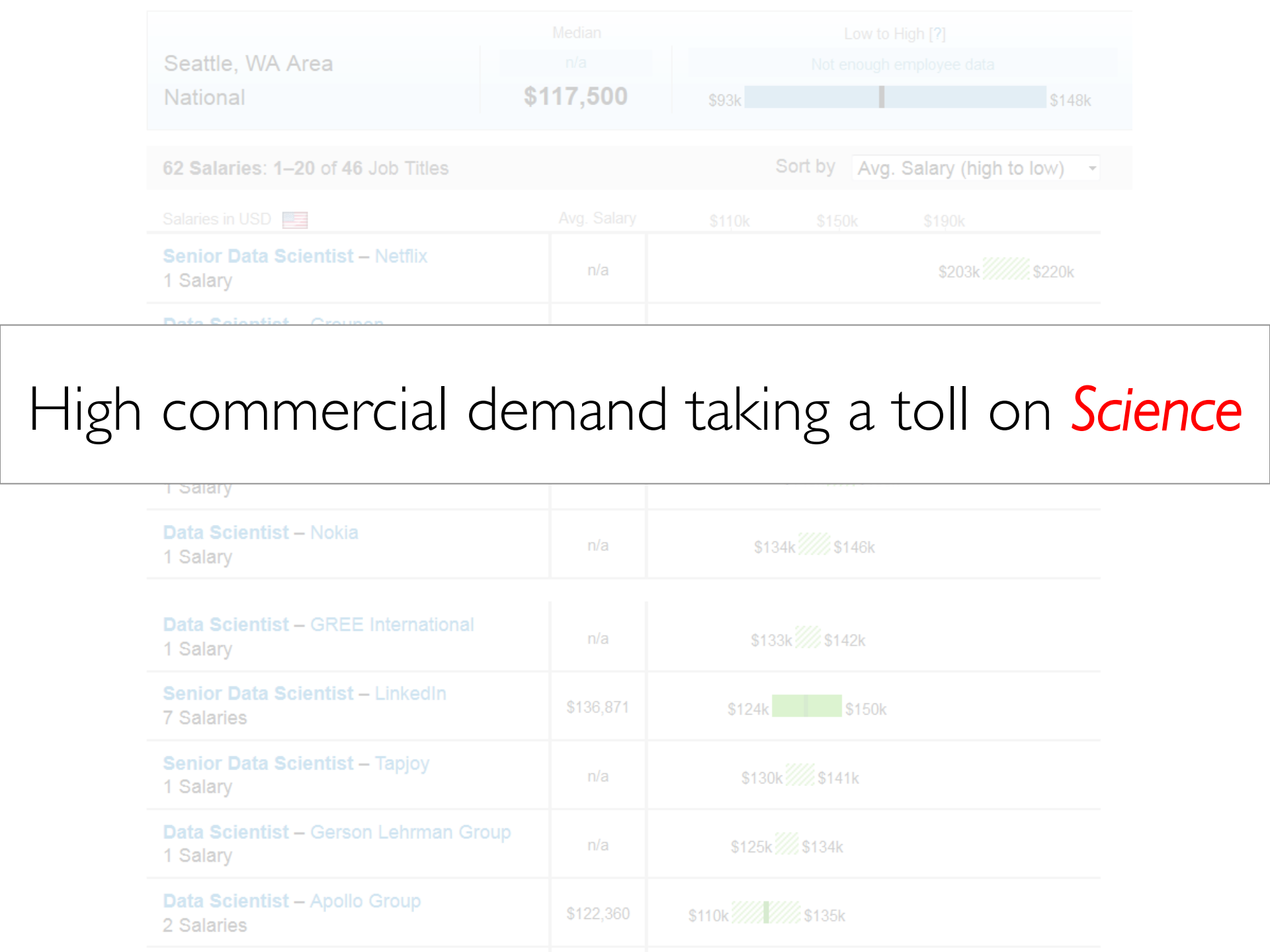
INSIGHT DATA SCIENCE FELLOWS PROGRAM

An intensive seven week post-doctoral training fellowship bridging the gap between academia and science

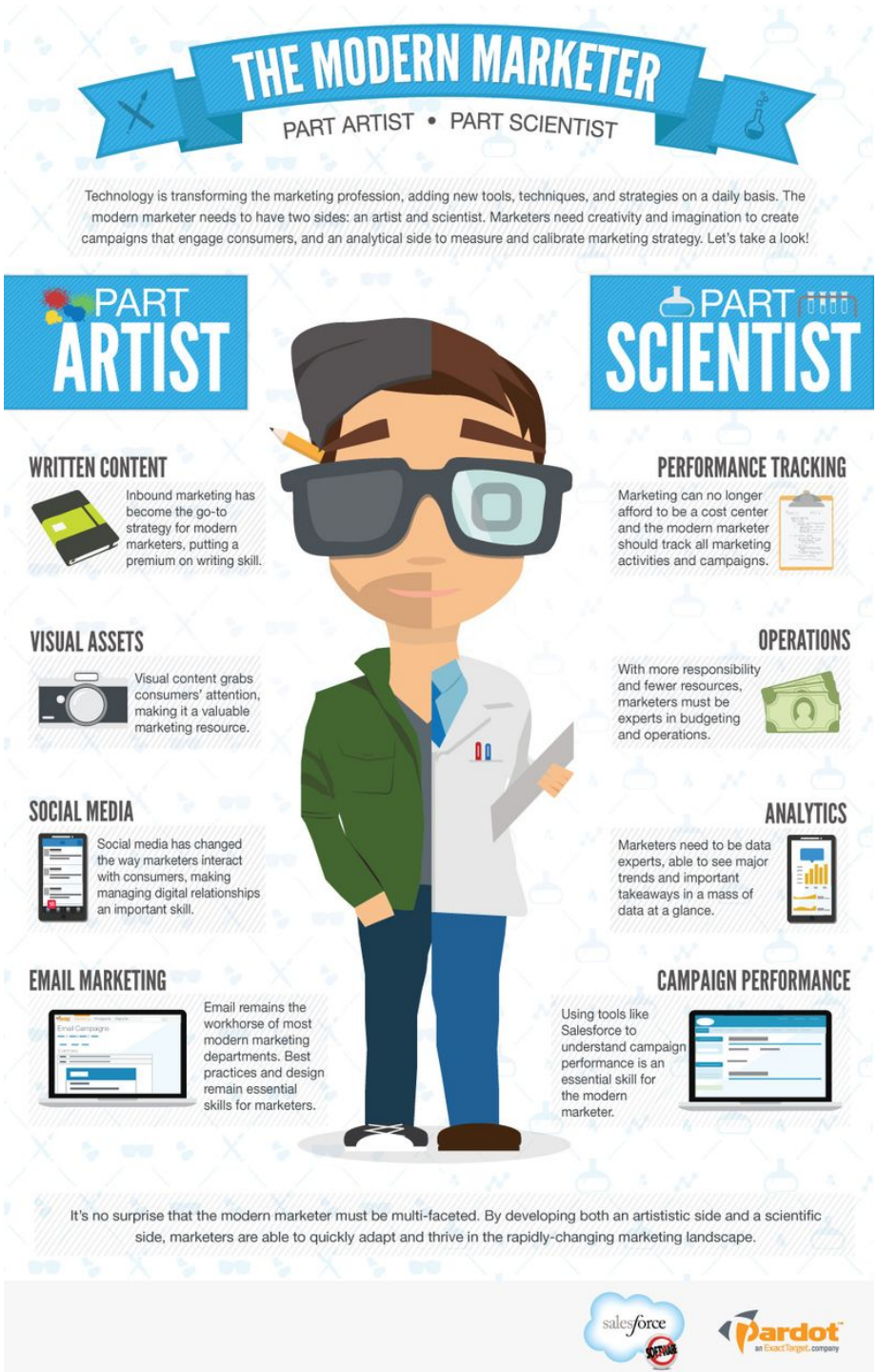
WHITE PAPER

APPLY NOW

Want to be notified of future dates? Click Here



High commercial demand taking a toll on *Science*

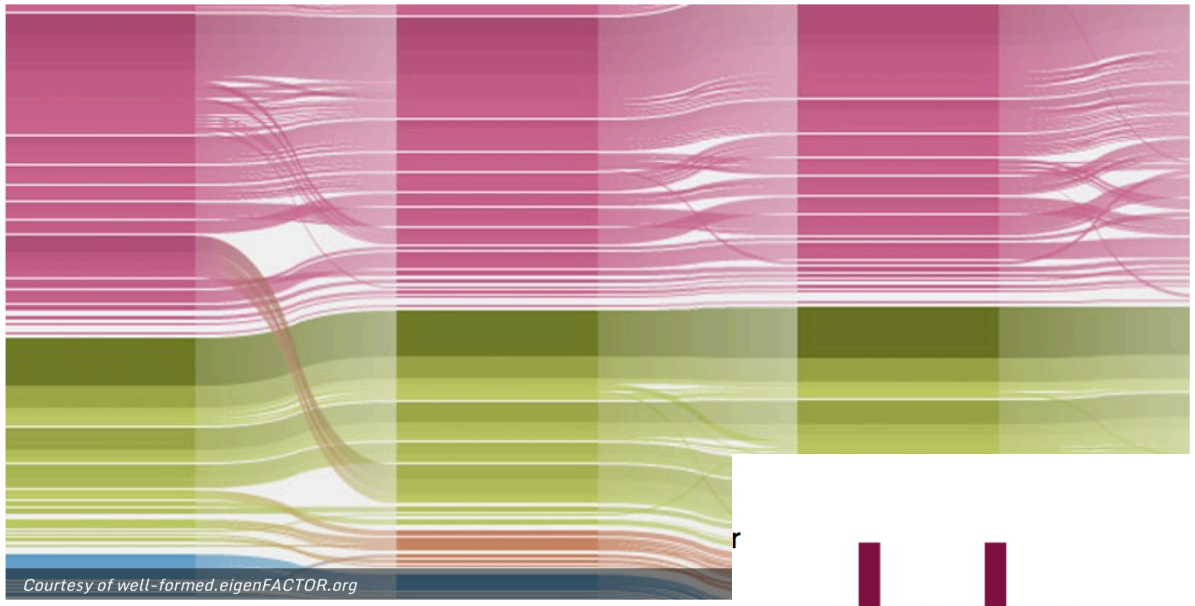


The Modern Brain Drain from Science to Marketing

The Science 'Ghost Town'

GORDON AND BETTY MOORE FOUNDATION

Data Science for Science



DATA-DRIVEN DISCOVERY

Data Science Environments

ALFRED P. SLOAN FOUNDATION

What We Do

Overview

Over the course of the last decade many disciplines have evolved from recording observations in laboratory notebooks to the use of instruments capable of digitally recording many gigabytes of data in a day. This abundance of data provides unprecedented opportunities for discovery. Tapping its potential requires the application of sophisticated new computational techniques operating on large scale storage, computational and network resources. Since its creation in 2008, the eScience Institute has worked to create the intellectual and physical infrastructure needed to meet this challenge.

At the core of the eScience Institute are individuals who have proven track records in developing and applying advanced computational methods and tools to real world problems. Their task is to seek out and engage researchers across disciplines where eScience approaches are likely to have the greatest impact. To ensure that researchers have access to the necessary physical infrastructure, the Institute has undertaken coordinated planning and support for advanced local and remote computational platforms. This includes developing relationships with commercial and non-commercial service providers as well as the development of shared facilities on campus. This support extends to assistance in the preparation of select proposals where we are able to focus resources, improving their chances for success.

Also in... What We Do

Appliance Gallery
Find and use the eScience Institute's virtual machines equipped with software useful for specific applications.
Campus Compute & Storage
Learn about what UW is doing to support scalable scientific computing on campus
Consulting & Services
From algorithm development to database creation to cloud computing, we can help.
Projects
Explore some of our current collaborations with research scientists.
Relevant Courses
View a list of courses offered in eScience disciplines.
SQLShare Success Stories
Tools
Whether it's database management, visualization, or developer tools, learn about tools we can help you use.

Latest eScience News

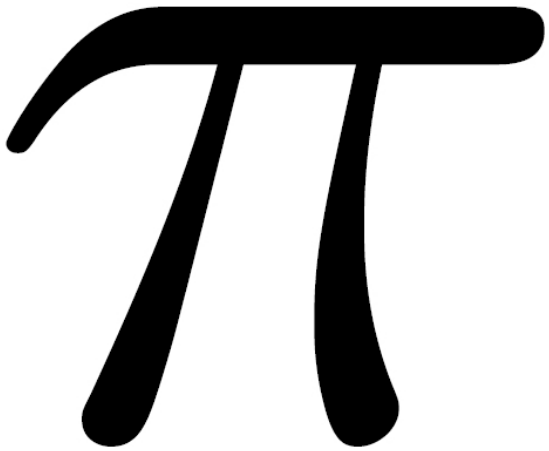
Data Science Incubation Program - Winter 2016
2 hours 4 min ago

Ben Marwick On How Computers Broke Science

Lessons Learned

- Space and water coolers still matter
- The need for **π**-shaped students
- Project-driven learning facilitates interdisciplinarity (capstones, hackathons, data for social good)
- Leverage alternative forms of education (MOOCs, bootcamps)
- The need to create career paths for data scientists that build tools (databases, software) that facilitate science
- Experiment with university programs

Space Matters



Project-based learning

UNIVERSITY of WASHINGTON
eScience Institute
DATA SCIENCE FOR SOCIAL GOOD

Alternative Education Forums

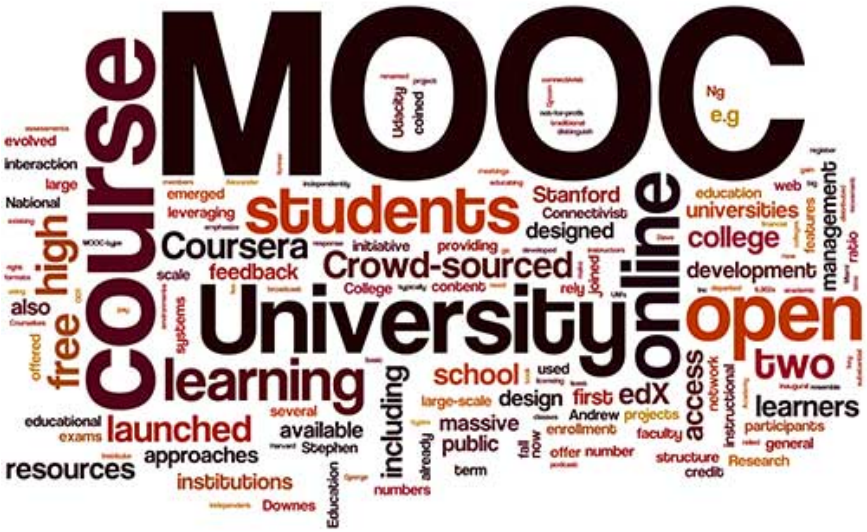


*image from learndash.com

University career paths for data scientists

Interdisciplinary Experimentation

Information School
UNIVERSITY of WASHINGTON

Academic Programs

Bachelor of Science in Informatics

Informatics majors have a passion for making a difference through information and technology. They design, build, manage and secure systems to meet the needs of people, organizations, and society.

> Learn about the program
> See the curriculum and courses
> Discover careers
> Meet a diversity ambassador
> Apply for the program

What is an iSchool?

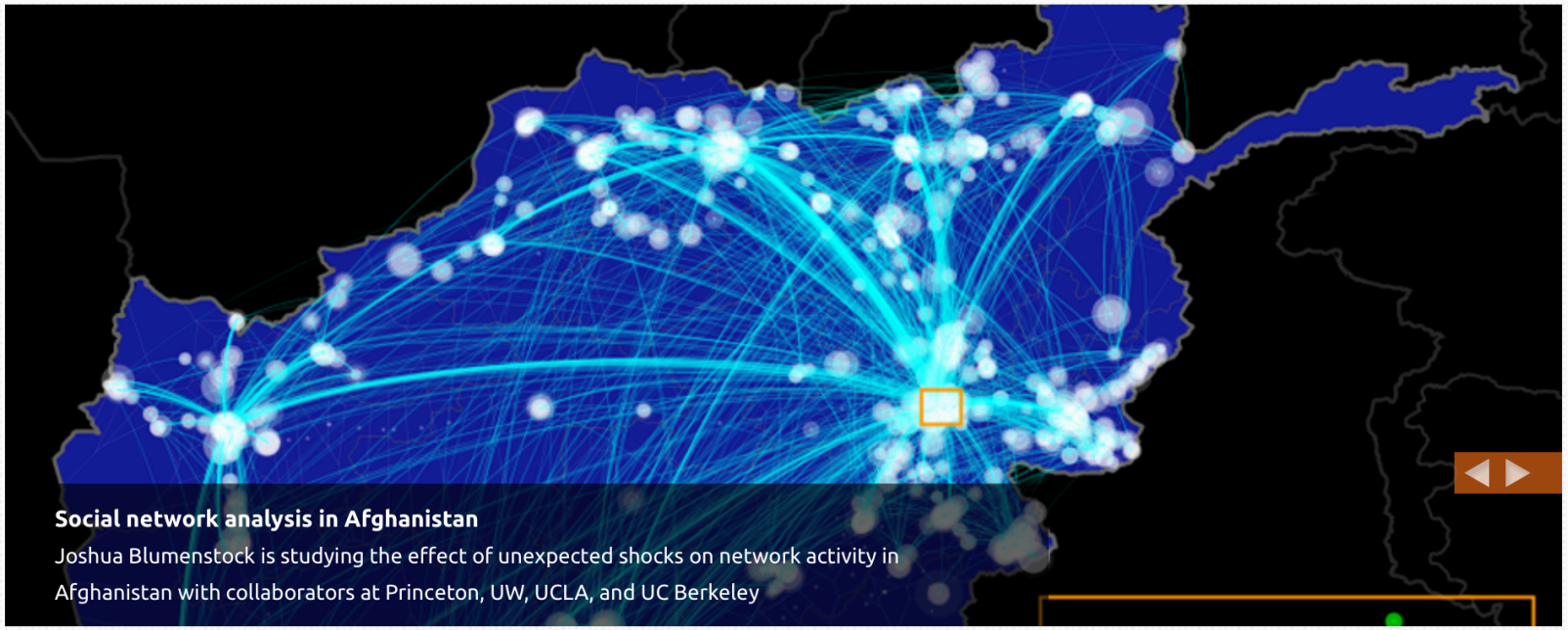
Who are we?

We are a community of professionals focused on diverse areas of expertise relating to the study of information and its use by people and organizations.

DataLab

Data Science and Analytics Lab

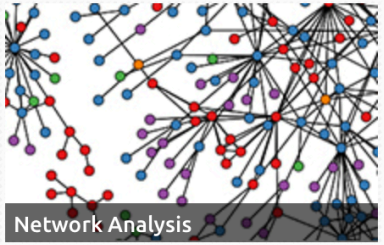
University of Washington Information School



Social network analysis in Afghanistan

Joshua Blumenstock is studying the effect of unexpected shocks on network activity in Afghanistan with collaborators at Princeton, UW, UCLA, and UC Berkeley

Research Focus Areas



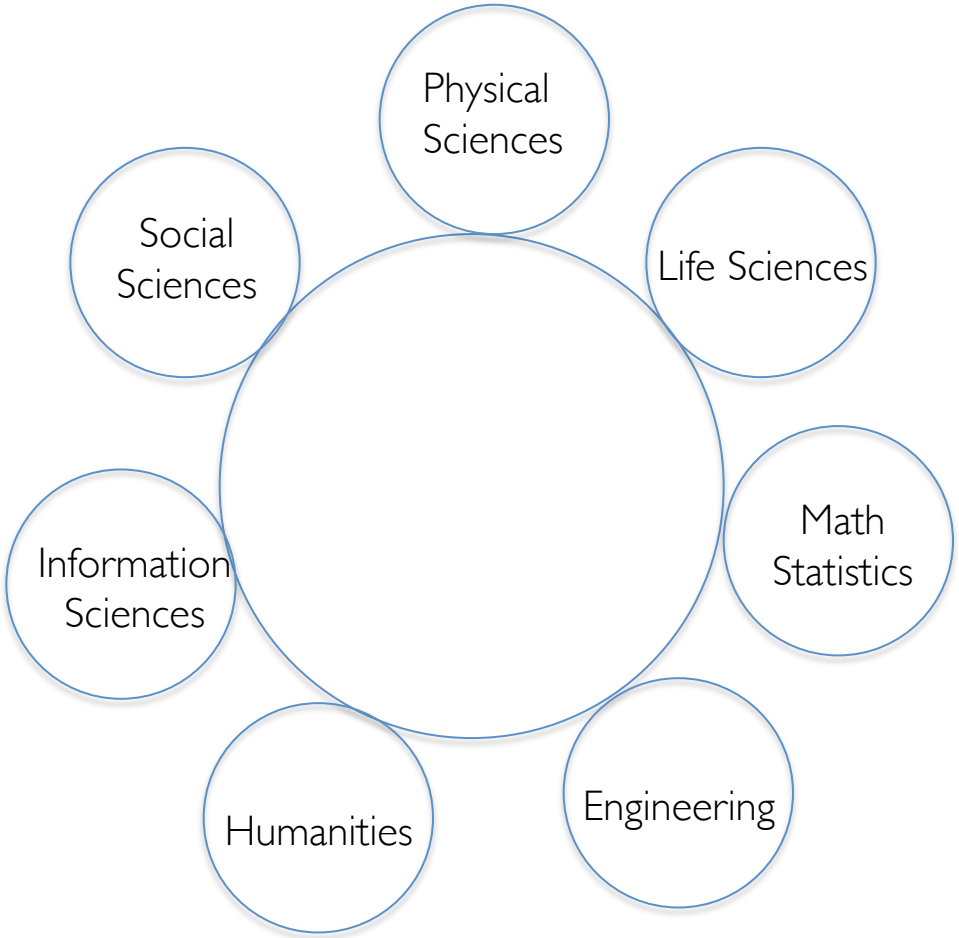
News and Updates

28 **Blumenstock at Population Association of America**

What we do

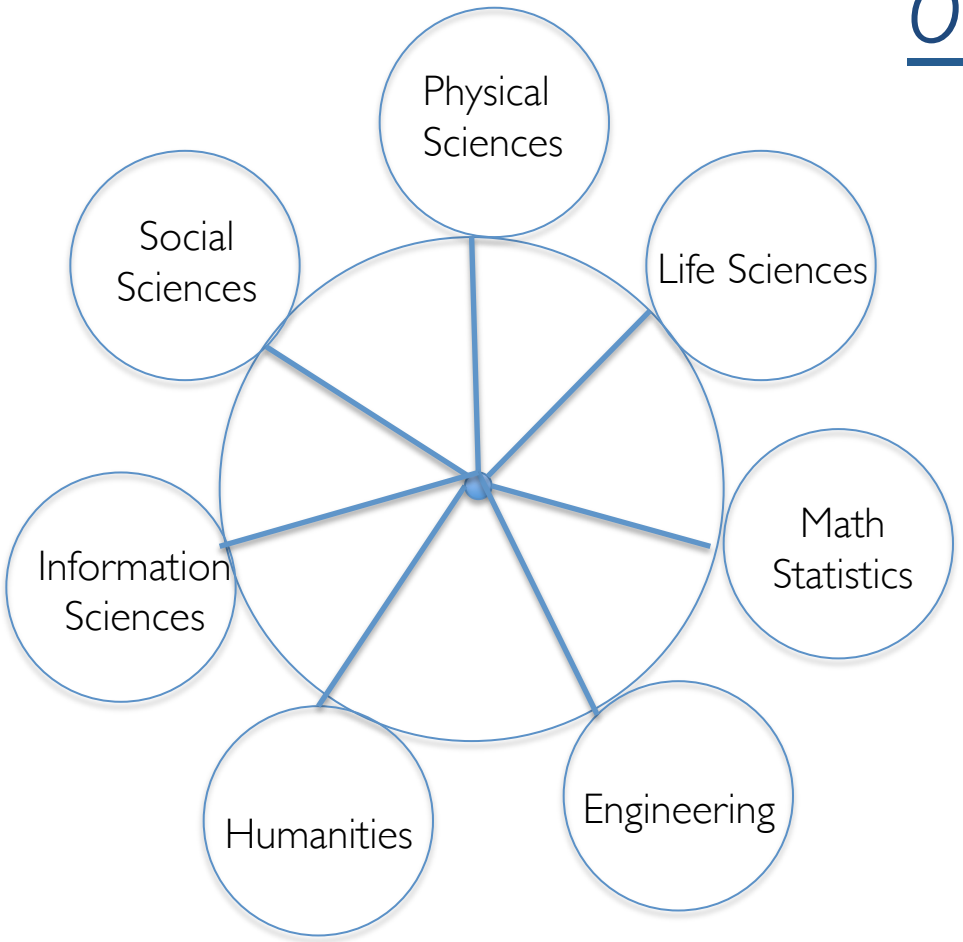
The DataLab is the nexus for research on Data Science and Analytics at the UW iSchool. We study **large-scale, heterogeneous human data** in an

Science Education



Data Science Education

opportunity



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