

Quantitative Information Architecture

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Ways of Knowing & Doing

The fox knows many things, but the hedgehog knows one big thing. Archilochus

Quantitative IA is a specialty, a mindset

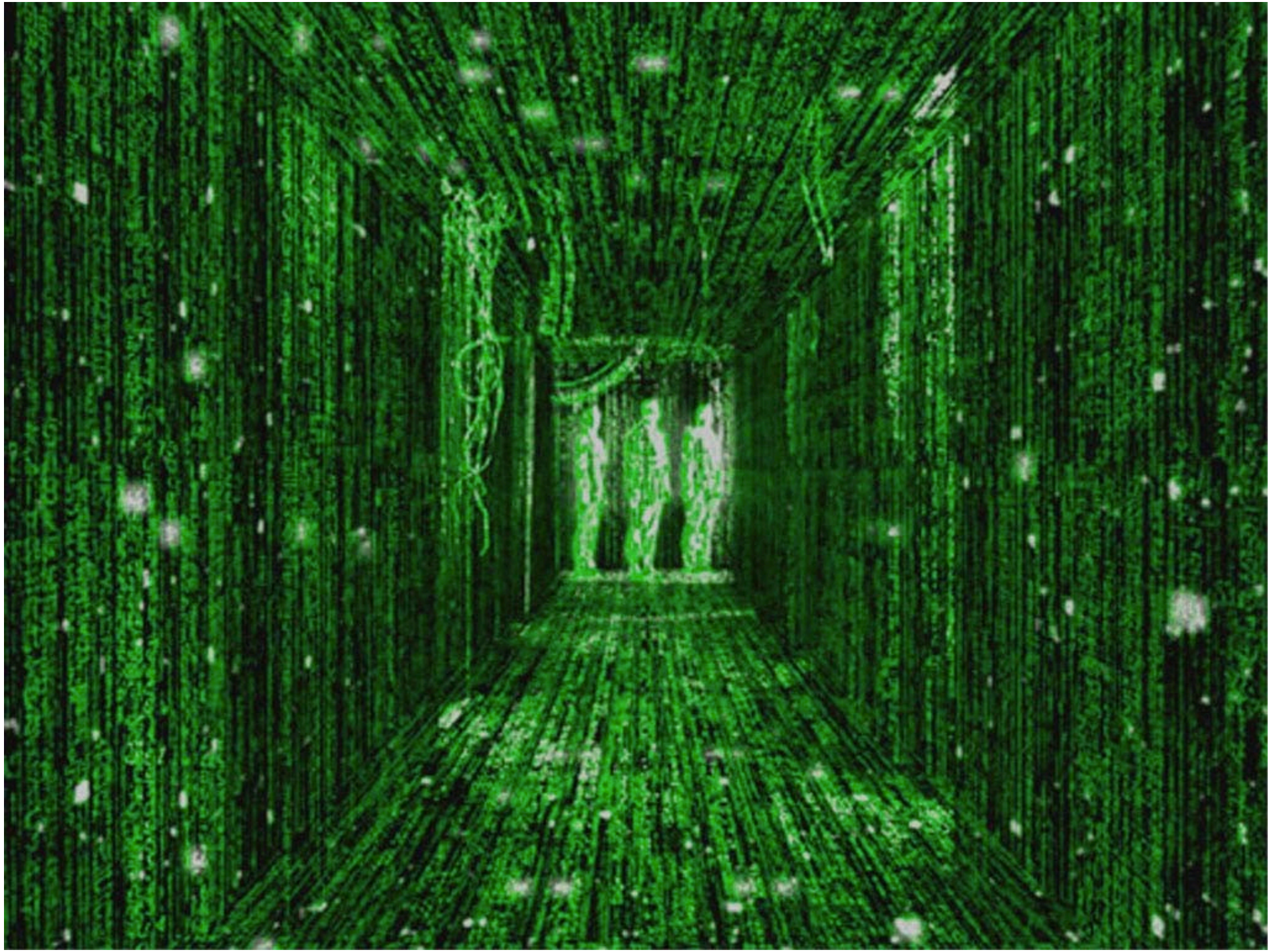
Using this focus to solve problems

Designing appropriate experiments

Leveraging existing quantitative data

Conducting rigorous analysis

What does the world look like to
a Quantitative Researcher?



“How do I love thee? Let me count the ways.”

Elizabeth Barrett Browning

Quantitative Methods

- What's Quantitative good for?
 - Understanding what users actually do instead of what they said they do.
 - Making comparisons over time
 - Generalizable and extensible
 - Useful for interpreting and analyzing others results

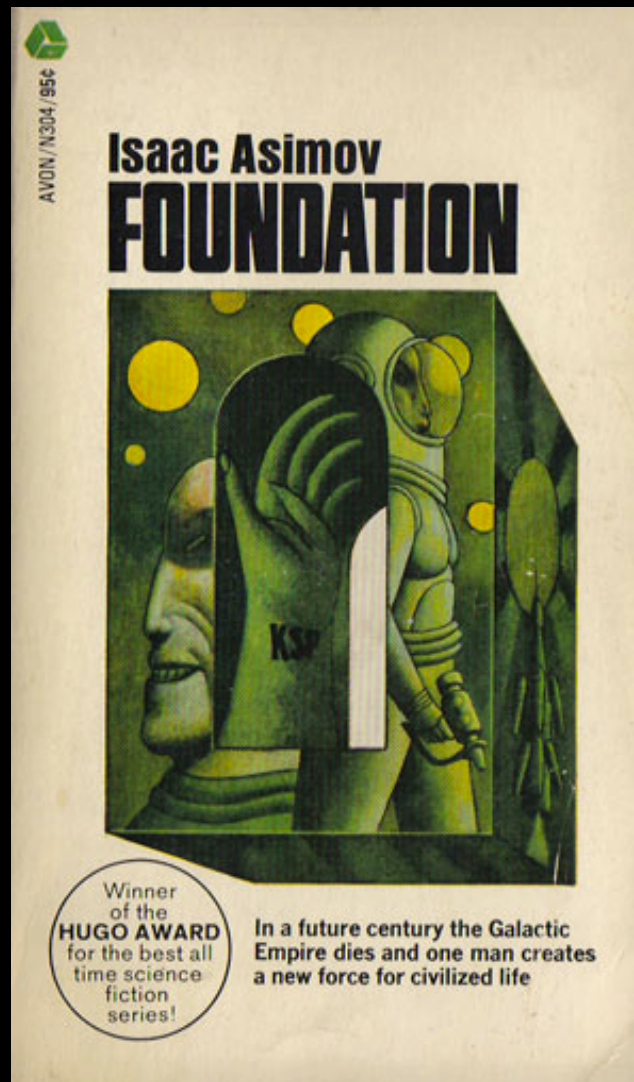
Why you should go Quant

- It is a discipline
 - Hypothesis based
 - More applicable to peer review
- It requires a set of skills that have a (much) higher market value
- Many characteristics examined are constants
 - Behavior
 - Physical traits and abilities

The Power of Quant

- Fight fire with Fire
 - Numbers speak the language of business & technology (C-level execs)
- (Almost) infallible results
- Qualitative decisions for Quantitative measurement

Predict everything?

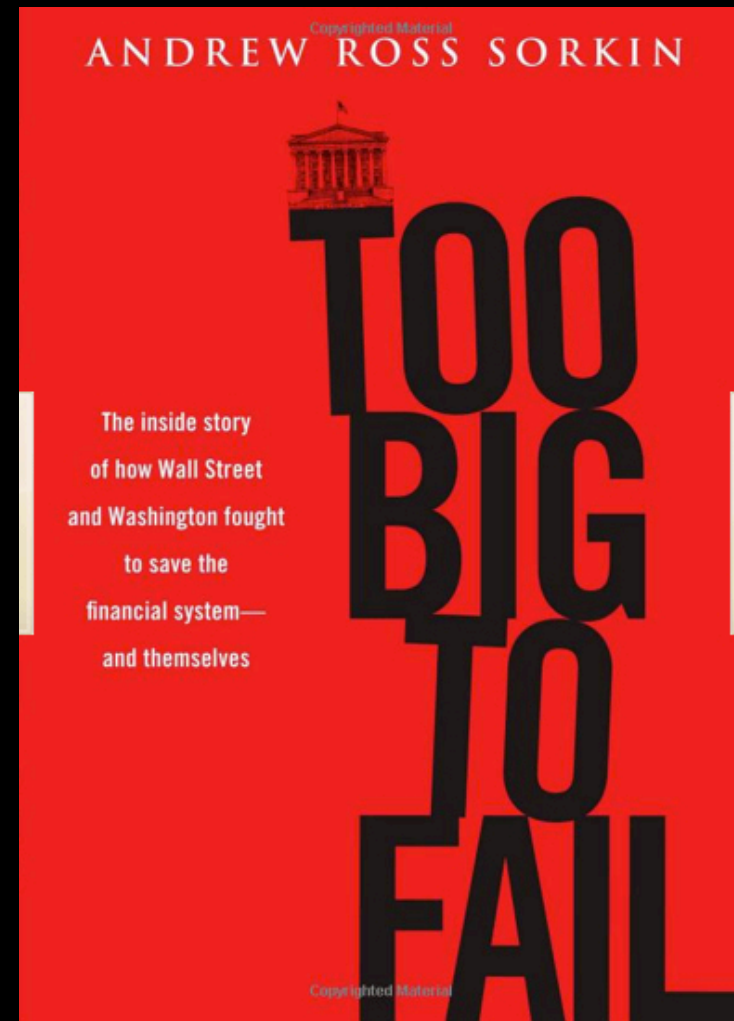
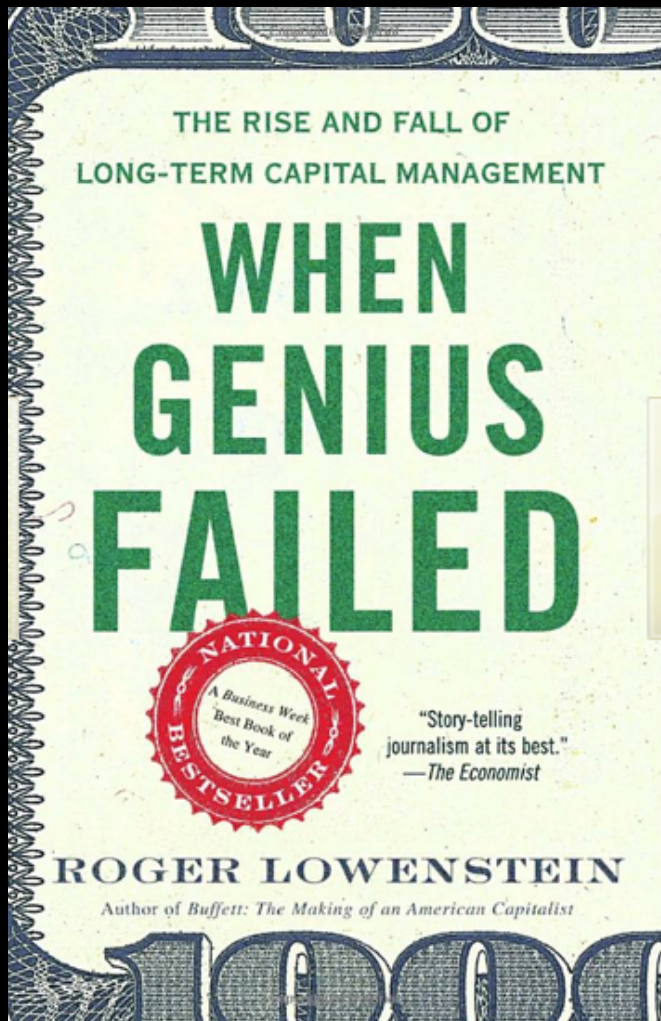


What about Qualitative?

- Anyone can do qualitative research...
 - ...and anyone does
 - Hard to replicate, hard to validate, easier to do
- Domain of study (who) is main focus
- Variability is often wide
- Technique is critical

Quantitative & Qualitative should
complement each other

Because if they don't



Why Quant, Why Now?

- Computational power & networked systems
- We need new modeling techniques, even new metaphors to examine the complex systems we interact with
- Finance, Psychology, Physics & Computer Science
- Verifiable or provable by means of observation or experiment: empirical laws.

The Network Effect(s)

Metcalfe

Milgram

Welman, Watts & others

The (New) Era of Instrumentation

- We are undoubtedly in a new era of reasoning
- Scientific Engineering enabled the original Age of Reason
- Now to understand intent & interactions

Statistics

WORLD

U.S.

N.Y. / REGION

BUSINESS

TECHNOLOGY

SCIENCE

HEALTH

SPORTS

OPINION

Search Technology

Go

Inside Technology

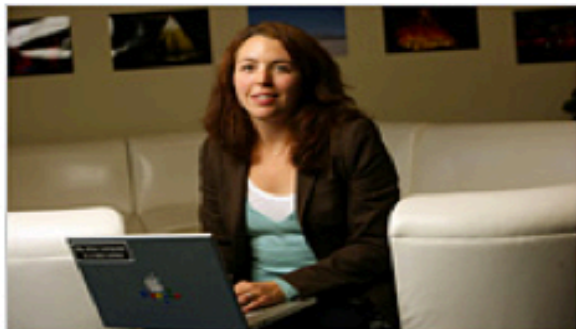
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For Today's Graduate, Just One Word: Statistics

By STEVE LOHR

Published: August 5, 2009

MOUNTAIN VIEW, Calif. — At Harvard, Carrie Grimes majored in anthropology and archaeology and ventured to places like Honduras, where she studied Mayan settlement patterns by mapping where artifacts were found. But she was drawn to what she calls “all the computer and math stuff” that was part of the job.

[Enlarge This Image](#)

Thor Swift for The New York Times

Carrie Grimes, senior staff engineer at Google, uses statistical analysis of data to help improve the company's search engine.

“People think of field archaeology as Indiana Jones, but much of what you really do is data analysis,” she said.

Now Ms. Grimes does a different kind of digging. She works at [Google](#), where she uses statistical analysis of mounds of data to come up with ways to improve its search engine.

Ms. Grimes is an Internet-age statistician, one of many who are changing the image of the profession as a place for dronish number nerds. They are finding themselves increasingly in demand — and even cool.

“I keep saying that the sexy job in the next 10 years will be statisticians,” said Hal Varian, chief economist at Google. “And I’m not kidding.”

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- Stock Market
 - Whole channels on TV devoted to both
- Sports.... All the time.... Everywhere
- Your net worth, your IQ, your Zip Code, SAT score, GPA...

Data Science

Rise of the Data Scientist

Posted by **Nathan** on Jun 4, 2009 to **Data Design Tips**, **Featured**, **Statistics**

As we've all read by now, Google's chief economist Hal Varian **commented** in January that the next sexy job in the next 10 years would be statisticians. Obviously, I whole-heartedly **agree**. Heck, I'd go a step further and say they're sexy now - mentally *and* physically.

However, if you went on to read the rest of Varian's interview, you'd know that by *statisticians*, he actually meant it as a general title for someone who is able to extract information from large datasets and then present something of use to non-data experts.

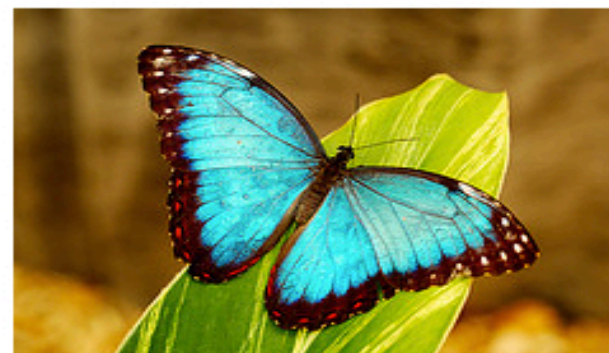


Photo by majamarko

Sexy Skills of Data Geeks

As a follow up to Varian's now-popular quote among data fans, Michael Driscoll of Dataspora, discusses the **three sexy skills of data geeks**. I won't rehash the post, but here are the three skills that Michael highlights:

1. Statistics - traditional analysis you're used to thinking about
2. Data Munging - parsing, scraping, and formatting data
3. Visualization - graphs, tools, etc.

A New Kind of Empirical Science

A few ideas about what's next

Analytics

Making Search Better

Atomic Information Architecture (for Auction)

Pervasive, Emotive & Suggestive Algorithms

Summary

New Age of (Empirical) Reason

Quant at scale = new Qual insights

Data Scientists

