

Welcome to Methodology & Statistics in Psychology

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Welcome to Methodology & Statistics in Psychology

- international (English) Master
 - one year program (60EC)
 - aims at becoming a data scientist, statistical consultant, researcher
 - making good predictions
 - * who has the largest chance of becoming depressed?
 - * who will buy my product?
 - wanting to understand the relation between variables
 - * which factor is most related to getting a depression?
 - good career prospects
 - if you would like to become a researcher in statistics, the two year *Statistical Science for the life and behavioural sciences* master is a better choice.
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Career prospects

The screenshot shows a web browser window with the URL <http://hbr.org/2012/10/data-scientist-the-sexiest-job-of-the-21st-century>. The page title is "Data Scientist: The Sexiest Job of the 21st Century" by Thomas H. Davenport and D.J. Patil. The article is from the October 2012 issue of Harvard Business Review. The page features a navigation bar with "Previous", "Next", and "Options" buttons. Below the title, there are icons for "SUMMARY", "SAVE", "SHARE", "COMMENT", "TEXT SIZE", "PRINT", and "BUY COPIES" for \$8.95. The main text begins with a large "W" and discusses Jonathan Goldman's experience at LinkedIn in 2006. On the right side, there is a "WHAT TO READ NEXT" section with three links: "Big Data: The Management Revolution", "Making Advanced Analytics Work for You", and "5 Essential Principles for Understanding Analytics". Below that is a "VIEW MORE FROM THE October 2012 Issue" section featuring a cover image of Harvard Business Review with the headline "GETTING CONTROL OF BIG DATA" and a link to "EXPLORE THE ARCHIVE". The footer of the page shows "4/5 FREE ARTICLES LEFT" and options to "REGISTER FOR MORE" or "SUBSCRIBE - SAVE!".

Statistics as most sexy job

Data Scientist: The Sexiest Job of the 21st Century

by Thomas H. Davenport and D.J. Patil

FROM THE OCTOBER 2012 ISSUE

SUMMARY SAVE SHARE COMMENT TEXT SIZE PRINT \$8.95 BUY COPIES

When Jonathan Goldman arrived for work in June 2006 at LinkedIn, the business networking site, the place still felt like a start-up. The company had just under 8 million accounts, and the number was growing quickly as existing members invited their friends and colleagues to join. But users weren't seeking out connections with the people who were already on the site at the rate executives had expected. Something was apparently missing in the social experience. As one LinkedIn manager put it, "It was like arriving at a conference reception and realizing you don't know anyone. So you just stand in the corner sipping your drink—and you probably leave early."

Goldman, a PhD in physics from Stanford, was intrigued by the linking he did see going on and by the richness of the user profiles. It all made for messy data and unwieldy analysis, but as he began exploring people's connections, he started to see possibilities. He began forming theories, testing hunches, and finding patterns that allowed him to predict whose networks a given profile would land in. He could imagine that new features capitalizing on the heuristics he was developing might provide value to users. But LinkedIn's engineering team, caught up in the challenges of scaling up the site, seemed uninterested. Some colleagues were openly dismissive of Goldman's ideas. Why would users need LinkedIn to figure out their networks for them? The site already had an address book importer that could pull in all a member's connections.

WHAT TO READ NEXT

- Big Data: The Management Revolution
- Making Advanced Analytics Work for You
- 5 Essential Principles for Understanding Analytics

VIEW MORE FROM THE October 2012 Issue

EXPLORE THE ARCHIVE

4/5 FREE ARTICLES LEFT REGISTER FOR MORE SUBSCRIBE - SAVE!

Career prospects

The screenshot shows a web browser window with several tabs open. The active tab is a New York Times article titled "For Today's Graduate, Just One Word: Statistics" by Steve Lohr, dated August 5, 2009. The article discusses the growing field of statistics, particularly in the context of data analysis and its application in various industries like archaeology and search engines. The browser interface includes a search bar, navigation buttons, and social media sharing options. A sidebar on the left contains a "Brooklyn Now Playing" advertisement. On the right, there is a Samsung advertisement for the Galaxy S6 edge and S6 edge+ smartphones, featuring the slogan "Next is Now". Below the advertisement, there is a "Related Coverage" section with a link to "Data Sleuths in an Internet Age" from February 17, 2015.

www.nytimes.com/2009/08/05/technology/05stats.html?_r=2

Tom Wilderjans - Outlook We... Google's prediction: What will ... For Today's Graduate, Just ...

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Previous Next Options

TECHNOLOGY For Today's Graduate, Just One Word: Statistics

Bitcoin Surges, Emerging From a Lull in Interest

Expedia to Acquire HomeAway for \$3.9 Billion

APP SMART Video Feature: Home-Rental Apps as Alternatives to Airbnb

TECH FIX The High Price of Delivery App Convenience

Daily Report BITS DAILY REPORT Airbnb Is Ready to Take On Your City

Airbnb and Uber Mobilize Vast User Base to Sway Policy

Face 41%, and

TECHNOLOGY

58 COMMENTS

For Today's Graduate, Just One Word: Statistics

By STEVE LOHR AUG. 5, 2009

Email Share Tweet Save More

BROOKLYN NOW PLAYING GET TICKETS

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.

"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."

The rising stature of statisticians, who can earn \$125,000 at top companies in their first year after getting a doctorate, is a byproduct of the recent explosion of digital data. In field after field, computing and the Web are creating new realms of data to explore — sensor signals, surveillance tapes, social network chatter, public records and more. And the digital data surge only promises to accelerate, rising fivefold by 2012, according to a projection by IDC, a research firm.

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LEARN MORE NEXT IS NOW

RELATED COVERAGE

Data Sleuths in an Internet Age FEB. 17, 2015

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The Best Jobs of 2017



By: CareerCast.com

STEM Education Coalition executive director James Brown projected careers in STEM – science, mathematics, engineering and technology – to be the “jobs of tomorrow” in 2014. The annual Jobs Rated reports confirm that assessment, but with an added twist: the future is now. STEM jobs abound on the Jobs Rated’s best jobs of 2017 list.

As the world becomes more quantitative and data-focused, mathematics takes center stage, with Statistician topping the best jobs of 2017. Applying the Jobs Rated criteria – evaluating income, growth outlook, stress and environmental factors – this hot field ranked No. 1.

One key factor in the profession’s top billing is that employment is expected to jump by 34% in the coming seven years. The extraordinarily high hiring outlook is the result of increased demand in fields that might not otherwise seem like areas for Statisticians.

A Statistician’s skill set can be used to break down and analyze large quantities of data. The demand for these skills spans a variety of industries, including marketing, banking, government, sports, retail, and even healthcare.

Since so many different industries now rely on data interpretation, a second data analysis job made the best jobs of 2017: fifth-ranked Data Scientist.

In total, four of the top 10 best jobs of 2017 are built on math. Operations Research

Earn Your Master’s in Accounting Online. GMAT Waivers Available.

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Whitman
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Jobs Rated Links

- [The Worst Jobs of 2017](#)
- [All 200 Rated Jobs](#)
- [Our Methodology](#)

Latest Jobs

Career prospects

- statistical consultancy
 - market research
 - psychological assessment
 - recruitment and selection of personnel
 - assisting with data analysis for applied research
 - fundamental research
 - at university: PhD in methods and statistics
- in this master program you obtain skills applicable in many research fields of research in psychology, but also outside psychology.
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Program

Course	Semester	Block	EC	Level
Compulsory components				
Introduction to R and Statistical Computing	1	I	5.0	500
Regression Modelling	1	I	5.0	500
Latent Variable Models	1	II	5.0	500
Statistical Learning and Prediction	1	II	5.0	500
Statistical Consulting (Psychology)	2	III	5.0	500
Internship Psychology	2	III	10.0	600
Master Thesis in MSc. Psychology	2	IV	20.0	600
Choose one elective overview of all electives				
Statistical Mediation and Moderation	1	II	5.0	500
fMRI Data and Analysis	2	III	5.0	500

Internship & Thesis

- Internship (10 ECTS)
 - scheduled February-April (together with Statistical Consulting, Block III)
 - Thesis (20 ECTS)
 - scheduled from May-end of the academic year
 - Thesis and Internship can be combined
 - Thesis and Internship can be internal or external
 - internal: statistical analysis for research at university (e.g., longitudinal depression study, studying criminal records)
 - internal: developing/testing methods for data analysis (e.g., methods for EEG/fMRI data analysis)
 - external: companies or research institutions
-

Internship & Thesis

Internship companies

- CITO (testing company)
 - Parnassia, Antes, trimbos (mental health)
 - Erasmus MC, Leiden University MC, VUMC
 - Statistics Netherlands (CBS)
 - TNO (consulting)
 - Unilever (food research)
 - SKIM, Human Insight (market research, business intelligence)
 - Dutch Forensic Institute (NFI) / Crime and law enforcement (NSCR)
 - DSW (health insurance)
 - ROBECO (investment banking)
-

Internship & Thesis

An Internship mainly deals with a more complicated analysis of a dataset

- a prediction problem: who will get depressed or is at risk for criminal behavior?
- evaluation of tests: psychometric analysis
- advanced methods for brain data

A thesis in M&S answers a methodological question.

- apply a new statistical model for an existing analysis problem
 - compare two statistical models for a single data analysis problem
 - investigate the behavior of a statistical model when assumptions are invalid
 - comparison of statistical models in a computer simulation study
-

Why to study M&S in Psychology?

Interesting features of the M&S Master

- evaluation mostly through take-home assignment (a very limited number of exams)
 - focus on skills instead of on knowledge
 - 30/60 EC for Internship/Thesis
 - more flexibility in when to study
 - use of real life data sets, assignment not always very structured (real life problems)
 - you are responsible for your own learning
 - you'll learn programming (in R)
 - **important skill at the labor market !!**
 - you can propose a topic for Internship and Thesis yourself !
 - you can do an Internship abroad
 - University of Naples, University of Barcelona
 - many more possibilities due to personal contacts of our staff (e.g., Leuven)
-

Starting in September or February?

Regarding the M&S Master

- one can start in September or February
- our program is targeted at students who start in September
 - is mostly a small group
- we do not encourage the start in February!
 - there are almost no courses in the second semester !

For more information about Student for a day, see

- www.universiteitleiden.nl/onderwijs/bachelors/voorlichtingsactiviteiten/meeloopdagen
 - contact *ambassador.mscpsy@FSW.leidenuniv.nl*
-

Statistical Science Master (2 years)

- two year program ('research master')
 - you do not need a bachelor in mathematics
 - aims at becoming an statistical researcher (PhDs)
 - collaboration between Leiden, Wageningen and Amsterdam
 - first year: common courses
 - second year: life/behavioral sciences or data science specialisation
 - information <http://www.math.leidenuniv.nl/statisticalscience>
 - information statscience@math.leidenuniv.nl
-

Statistical quotes

Admission information and deadlines

[https://www.universiteitleiden.nl/en/education/study-programmes/
master/psychology/methodology-and-statistics-in-psychology/
admission-and-application](https://www.universiteitleiden.nl/en/education/study-programmes/master/psychology/methodology-and-statistics-in-psychology/admission-and-application)

Some statistical quotes

- Torture numbers, and they'll confess to anything (Gregg Easterbrook)
 - Statistics can be made to prove anything - even the truth (author unknown)
 - The average human has one breast and one testicle (Des McHale)
 - All models are wrong, but some are useful (George E. P. Box)
 - To call in the statistician after the experiment is done may be no more than asking him to perform a post-mortem examination: he may be able to say what the experiment died of (Fisher)
 - There are three types of lies – lies, damn lies, and statistics (Benjamin Disraeli)
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