

# Data Visualisation & Analysis

Intro



# Visualisation & Analytics: van data naar inzichten & actie

- Descriptive analytics: what **has** happened? (e.g. dashboards)
- Predictive analytics: what **could** happen? (e.g. data mining)
- Prescriptive analytics: **how** can we achieve the best outcome? (e.g. optimization)

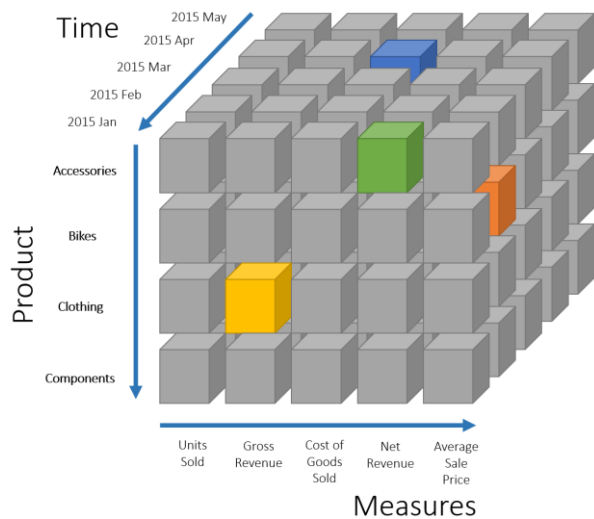


# Hoofdstuk 1: web analytics



 Google Analytics

# Hoofdstuk 2: business intelligence







## **JUNIOR BI CONSULTANT**

Passionate about **Business & IT? Data & Analytics?**

### Your job

As a graduate you will participate in a 4 weeks training path for starters and an intensive coaching on the job.

As you evolve in your role, you will work on BI-projects not only as a developer but also as a designer, architect or coach.

Depending on your seniority, you may also act as an advisor to optimize new and existing solutions which can be done by leveraging on the experiences of our senior consultants.

### Your skills

You have **affinity with Business & IT**

Knowledge of **BI, SQL, and Relational Databases** (Oracle, MS SQL Server, DB2).

Knowledge of **BI tools like Microsoft BI, Cognos, SAS, or QlikView** play to your advantage.

You have a **Bachelor or Master degree in IT/ICT**.

A very good knowledge of Dutch and/or French and English.

You have very good **analytical skills**, work accurately and are creative.

### Our offering

You will have the opportunity to participate in end-to-end projects in a variety of domains from business intelligence, data warehousing, data quality, data integration, visualization and big data to corporate performance management in various industries.

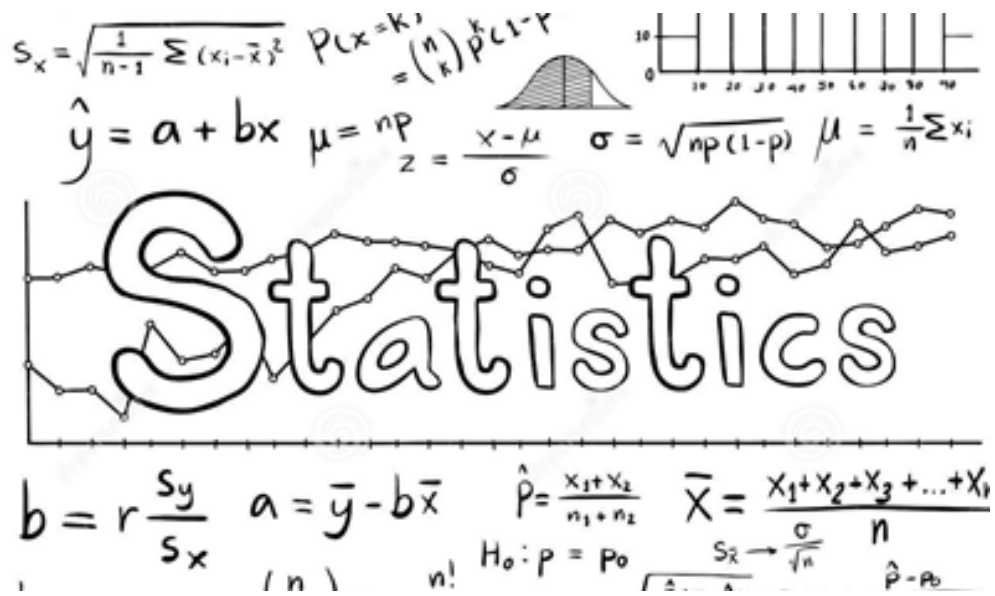
An attractive salary package including a company car

Excellent benefits combined with many training opportunities to further develop your knowledge and career in the world of BI.

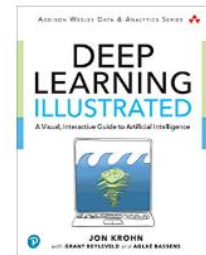
Figure 1. Magic Quadrant for Analytics and Business Intelligence Platforms



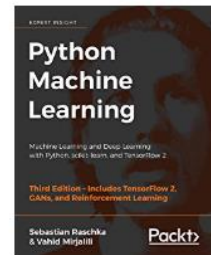
# Hoofdstuk 3: machine learning



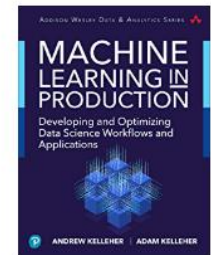
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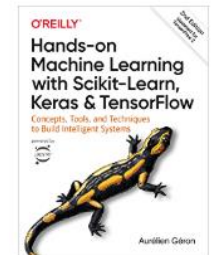
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# MODERN DATA SCIENTIST

Data Scientist, the sexiest job of 21st century requires a mixture of multidisciplinary skills ranging from an intersection of mathematics, statistics, computer science, communication and business. Finding a data scientist is hard. Finding people who understand who a data scientist is, is equally hard. So here is a little cheat sheet on who the modern data scientist really is.

## MATH & STATISTICS

- ☆ Machine learning
- ☆ Statistical modeling
- ☆ Experiment design
- ☆ Bayesian inference
- ☆ Supervised learning: decision trees, random forests, logistic regression
- ☆ Unsupervised learning: clustering, dimensionality reduction
- ☆ Optimization: gradient descent and variants

## PROGRAMMING & DATABASE

- ☆ Computer science fundamentals
- ☆ Scripting language e.g. Python
- ☆ Statistical computing package e.g. R
- ☆ Databases SQL and NoSQL
- ☆ Relational algebra
- ☆ Parallel databases and parallel query processing
- ☆ MapReduce concepts
- ☆ Hadoop and Hive/Pig
- ☆ Custom reducers
- ☆ Experience with xaaS like AWS

## DOMAIN KNOWLEDGE & SOFT SKILLS

- ☆ Passionate about the business
- ☆ Curious about data
- ☆ Influence without authority
- ☆ Hacker mindset
- ☆ Problem solver
- ☆ Strategic, proactive, creative, innovative and collaborative

## COMMUNICATION & VISUALIZATION

- ☆ Able to engage with senior management
- ☆ Story telling skills
- ☆ Translate data-driven insights into decisions and actions
- ☆ Visual art design
- ☆ R packages like ggplot or lattice
- ☆ Knowledge of any of visualization tools e.g. Flare, D3.js, Tableau



# Data Scientist: *The Sexiest Job of the 21st Century*

**Meet the people who can coax treasure out of messy, unstructured data.**  
by Thomas H. Davenport and D.J. Patil

**W**hen 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."

70 Harvard Business Review October 2012

Zie andere vakken

Focus van dit vak!!!

Doel is NIET om jou op te leiden tot data scientist, maar WEL om jou de basisprincipes bij te brengen zodat je succesvol kan functioneren in zo'n projectteam

Figure 1. Magic Quadrant for Data Science and Machine Learning Platforms



Source: Gartner (January 2019)



Azure Machine Learning