

# Data Science for Business

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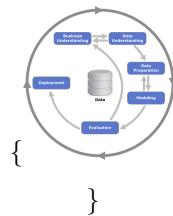
# Contents

<b>Preface</b>	<b>5</b>
Purpose of this course . . . . .	5
Structure of the course . . . . .	6
<b>About the author</b>	<b>7</b>
<b>1 Data-Analytic Thinking</b>	<b>9</b>
1.1 What is Data Science and what is not? . . . . .	9
1.2 What is Data Mining? . . . . .	9
1.3 What is Data Driven Decision Making . . . . .	11
1.4 What are the challenges and opportunities that Big Data creates? . . . . .	12
1.5 What are Big Data technologies? . . . . .	12
1.6 Case Study: Ubernomics . . . . .	12
<b>2 Business Problems and Data Science Solutions</b>	<b>15</b>
<b>3 Data Science and Business Strategy</b>	<b>17</b>
3.1 Case Study: AI Business . . . . .	17
<b>4 Applications</b>	<b>19</b>
4.1 Example one . . . . .	19
4.2 Example two . . . . .	19
<b>5 Final Words</b>	<b>21</b>



# Preface

\begin{figure}



\caption{CRISP-DM Model taken from: [https://commons.wikimedia.org/wiki/File:CRISP-DM\\_Process\\_Diagram.png](https://commons.wikimedia.org/wiki/File:CRISP-DM_Process_Diagram.png)}

\end{figure} ## Prerequisites {-}

Before starting this module make sure you have:

- access to the book *Provost, F., & Fawcett, T. (2013). Data Science for Business: What you need to know about data mining and data-analytic thinking. O'Reilly Media, Inc.*
- installed R and RStudio
- a Github account

## Purpose of this course

The general learning outcome of this course is:

The student is able to perform a well-defined task independently in a relatively clearly arranged situation, or is able to perform in a complex and unpredictable situation under supervision.

The course will provide you with a non-technical overview of data science, and types of techniques. The focus will lie on critical thinking and the full DS process (based on CRISP).

## Structure of the course

Table 1: Course overview

Week nr.	Module name	Readings
1	Onboarding and introduction to course	
2-3	Data-Analytic Thinking	Provost / Fawcett Ch.1
4-5	Business Problems and Data Science Solutions	Provost / Fawcett Ch.2
6-7	Data Science and Business Strategy	Provost / Fawcett Ch.13

# About the author



Witek ten Hove is a senior instructor and researcher at HAN University of Applied Sciences. His main areas of expertise are Data en Web Technologies.

Through his extensive business experience in Finance and International Trade and thorough knowledge of modern data technologies, he is able to make connections between technology and business. As an open source evangelist he firmly believe in the power of knowledge sharing. His mission is to inspire business professionals and help them exploit the full potential of smart technologies.





# Chapter 1

## Data-Analytic Thinking

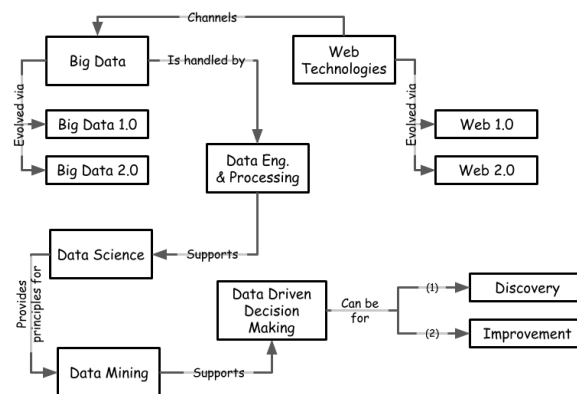


Figure 1.1: Lesson Map (own work)

### 1.1 What is Data Science and what is not?

What is the ultimate purpose of a Data Science effort?

### 1.2 What is Data Mining?

\begin{figure}

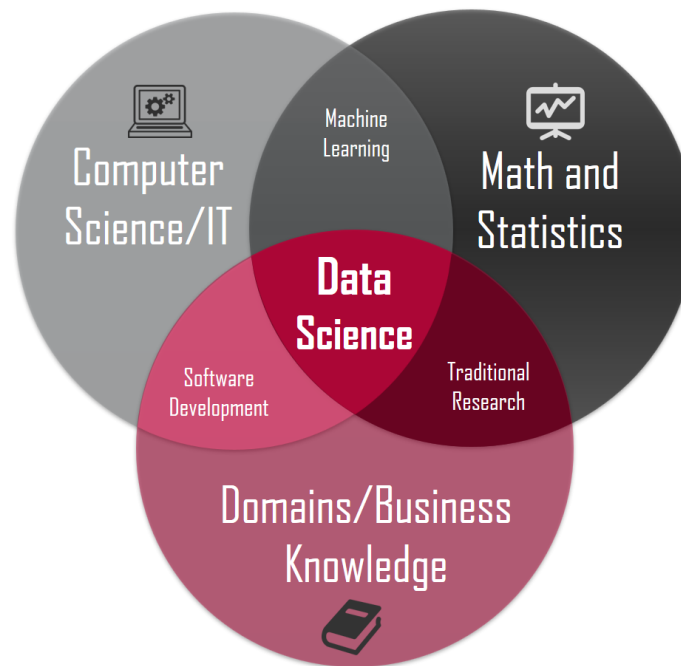
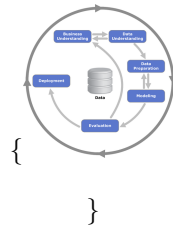


Figure 1.2: Data Science diagram taken from: <https://towardsdatascience.com/introduction-to-statistics-e9d72d818745>

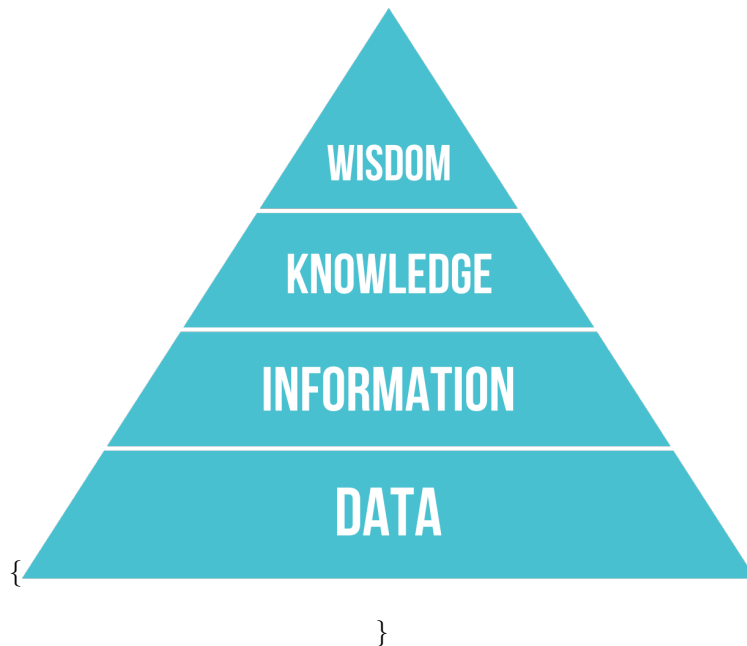


\caption{Cross-industry standard process for data mining taken from: [https://commons.wikimedia.org/wiki/File:CRISP-DM\\_Process\\_Diagram.png](https://commons.wikimedia.org/wiki/File:CRISP-DM_Process_Diagram.png)}\end{figure}

### 1.3 What is Data Driven Decision Making

What are other types of decision making? (relation with What is proof or evidence?)

\begin{figure}



\caption{DIKW pyramid taken from: [https://en.wikipedia.org/wiki/DIKW\\_pyramid#/media/File:DIKW\\_Pyramid.svg](https://en.wikipedia.org/wiki/DIKW_pyramid#/media/File:DIKW_Pyramid.svg)}\end{figure}

## 1.4 What are the challenges and opportunities that Big Data creates?

## 1.5 What are Big Data technologies?

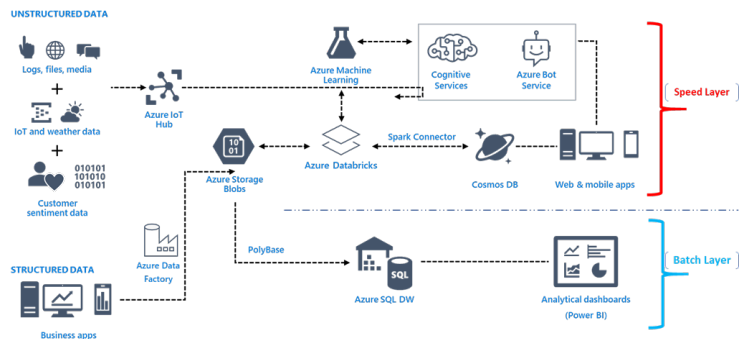


Figure 1.3: Big Data pipelines taken from: <https://azure.microsoft.com/en-gb/blog/the-emerging-big-data-architectural-pattern/>

## 1.6 Case Study: Ubernomics

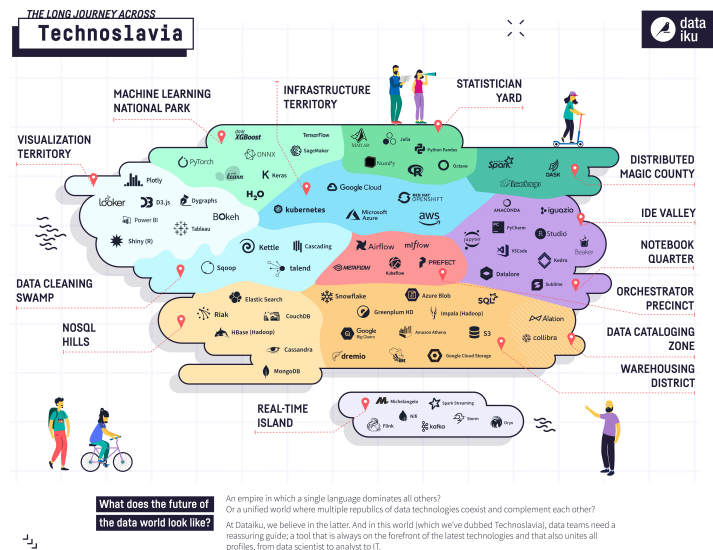


Figure 1.4: Big Data pipelines taken from: <https://blog.dataiku.com/technoslavia-the-fragmented-world-of-data-infrastructure-in-2020>



## Chapter 2

# Business Problems and Data Science Solutions

Here is a review of existing methods.





## Chapter 3

# Data Science and Business Strategy

### 3.1 Case Study: AI Business



## Chapter 4

# Applications

Some *significant* applications are demonstrated in this chapter.

### 4.1 Example one

### 4.2 Example two



## Chapter 5

# Final Words

We have finished a nice book.