

# BUSINESS DATA

## SMALL DATA

# BUSINESS DATA

## STRUCTURED DATA STORAGE

**Databases, but often based on spreadsheet software such as MS EXCEL.**



# BUSINESS SOFTWARE

# ERP

## ENTERPRISE RECOURCE PLANNING

**Enterprise resource planning is a computer program used within organizations to support all processes within the company.**

**An ERP program usually consists of small sub-programs that all support a specific task (stock management, accounting, ...)**



# CRM

## CUSTOMER RELATIONSHIP MANAGEMENT

**Customer relationship management or CRM is an English name for customer relationship management, sometimes also relationship marketing or sales management system.**





# DATA REVOLUTION

BIG DATA

# LOTS OF DATA

## VERY OFTEN UNSTRUCTURED



# WAY TOO EXTENSIVE FOR HUMAN ANALYSIS

## TOO LITTLE “MAN POWER”



# NEVERTHELESS INTERESTING

## WHAT CAN WE DO WITH THIS “BIG DATA”?



# EXAMPLES

# CONSUMER BUYING BEHAVIOR ON WEBSHOPS

## ANALYSIS OF PURCHASE DATA MAY MAKE SUGGESTIONS FOR OTHER BUYERS POSSIBLE



# CRIME DATA

## CRIME PREVENTION THROUGH ANALYSIS OF EXISTING DATA



# VOTE BEHAVIOR

## PREDICTING ELECTION RESULTS + MANIPULATION



# MUSICAL PREFERENCE

**SUGGESTIONS TO MUSIC LOVERS BY COMPARATIVE "ANALYSIS" OF "SOUND FILES"**



# PREDICTING WEATHER & CLIMATE

## GLOBAL WARMING






# MAKE AGREEMENTS

## SCHEMES, SEMANTICS AND DATA MODELS

# SHEMES AND STRUCTURED DATA

XML
JSON
...





# DATA GATHERING

# IOT

## DATA FROM SENSORS



# READ CHAPTER 4



Chapter 4

COLLECTING DATA

- What digital trails does each of us leave behind?
- How is data collected?

What trails do we leave behind? We
files on our computer. All this digita
aware of, others considerably less sc

Shopping streets are littered with
register our movements and look fo
register, but also store their data for

Authorities install increasingly mor
roads and highways. After all, we are
are left in no doubt about that.

How is data collected? How much
Why is the produced amount of digi

# WATCH THIS VIDEO

https://www.schoolvoorbeeld.be/Concepten%20van%20data%20en%20analytics/datacollection

# EXISTING DATA COLLECTIONS

**IMAGENET**
**REST-API'S**
**...**



# WEBSCRAPING

## AUTOMATED DATA COLLECTION ON THE INTERNET



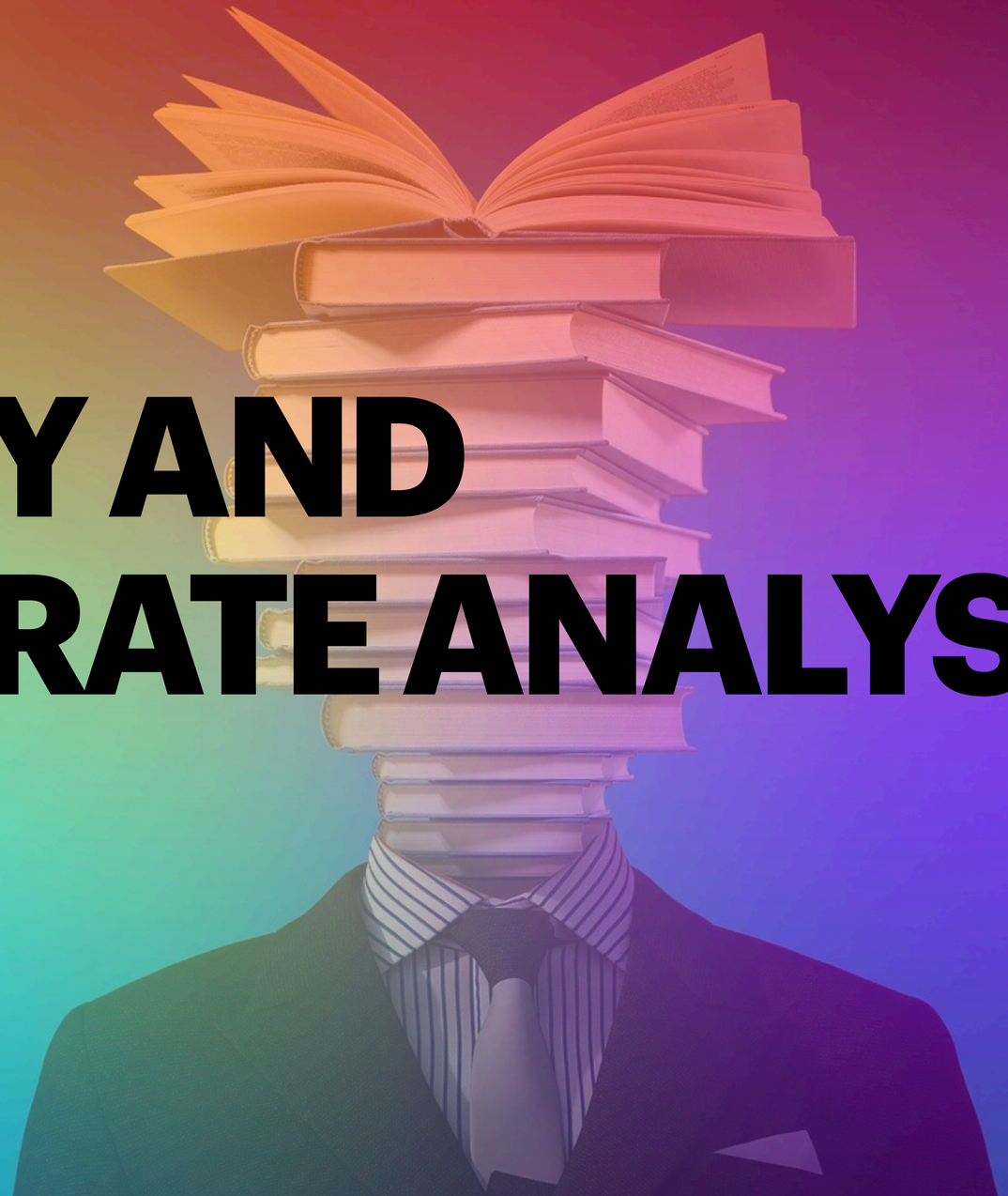
# WATCH THIS VIDEO



https://www.schoolvoorbeeld.be/Concepten%20van%20data%20en%20analytics/rest-scraping

# SIMPLIFY AND ACCELERATE ANALYSIS

ALGORITHMS



# COMPRESS DATA

## MAKE DATA SMALLER



# CORRECTING ERRORS IN THE DATA

## ERROR CORRECTION ALGORITHMS



# SORTING DATA

## SORTING ALGORITHMS



# ANALYSIS ALGORITHMS

## LINK ANALYSIS



# PATTERN RECOGNITION

**EXAMPLE: SHAZAM**





# PRIVACY & SECURITY

## SECURITY ALGORITHMS