

LINMA 2472

Algorithms in Data Science

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How many datapoints are collected, daily, on a fleet of 1000 trucks? ~1 billion, several Gb of data

What can we do with this data?

- Operations research
- Marketing
- Security
- Research

Challenges

- 'Big Data':
 - Volume
 - Velocity
 - Variety
- Complex patterns:
 - How to detect them?
 - Supervised vs unsupervised
- Ethics:
 - Privacy
 - Bias

In this course

- We focus on algorithms required to tackle these challenges
- This year:
 - Large graphs, aka Complex networks
 - Privacy
 - Embeddings
 - Invited topics: bias

Practical info

- After each topic, a small project: trying on data
- Coding in Python
- A 'big' project of your choice: find interesting data and interesting algorithms!
- Groups of 2 or 3
- Final grade : projects (ca 75-80%) + exam (ca 20-25%)
- Might change due to circumstances and audience