Analysis and data processing, business applications

ECTS
4 crédits

Hourly volume
37h

Introducing

Objectives

At the end of this module, the student will have understood and be able to explain (main concepts):

Data management:
Exploratory/confirmatory data analysis. Algorithmic Complexity vs. development costs, parallelism, software engineering notions (life cycle of a data analysis pipeline).
Data visualisation techniques.

Semantic manipulation:
- What an ontology is
- What are the main constituting elements of an ontology
- What are the perks of enriched data compared to raw data

Software engineering:
- Software project lifecycle
- The challenges of software development
- Project management methods, including agile method

The student will be able to:
- Explore a dataset, leverage it to answer specific questions, and present the results of this analysis -incl. Its limits- in a synthetic written report.
- Design an ontology to capture domain knowledge
- Discover and reuse knowledge sources (ontologies, knowledge bases) online
- Enrich a dataset with semantic metadata
- Control the conduct of a software development project with a team by following the agile method
- Perform requirement analysis: expression, analysis and transformation into technical requirements

Necessary prerequisites

- Algorithms and programming
- Statistics (notions)
- Java programming
- Web technologies background knowledge

Practical info

Location(s)

Toulouse