

Business Analytics and Data Mining

ECTS : 3

Description du contenu de l'enseignement :

Big data and AI are more and more shaping our personal and professional lives as companies become more and more data-driven.

With datascience and the combination of Big data and Machine Learning Techniques ,suddenly the kind of questions that most professional ask since many years get a crystal clear answer : Which of my customers are most likely to churn ? How to minimize credit risks ? How to attract best talents ? How to predict next security breach ? Who are my best prospects ? How can we increase Life Time Value of customers?

All Strategic decisions can be based now on data.

In this context any business professional (Marketing , Sales, Finance, Human Resource) needs to understand and master data and AI, those technologies will not be any more “black boxes” that only specialists like datascientists can handle.

The first and main objective of this course is to give you all the keys for becoming autonomous about data in order to solve a business challenge or problem and take a decision. with big amount of data.

The second objective is to give you the knowledge to be integrated in large data projects and work with specialists like datascientists, IT specialist, legal specialist , understand their constraints and vocabulary.

Course structure

1. Introduction , main Concepts & vocabulary
2. Data vizualization , graphics , descriptive analysis
3. Data preparation enriching data
4. In depth analysis
5. Conducting a predictive analysis using machine Learning algorithms
6. Business Cases exemples : Finance, health, security , Marketing
7. Preparation of final presentation
8. Final Presentation

Compétence à acquérir :

Learning outcomes

Having followed this lecture you will be in capacity of :

- Identifying appropriate data in order to solve a business complex topics
- Preparing data for analysis by using best-in-class tools
- Analyzing those data to get business insights or take decisions
- Vizualising your results and present management synthesis of your work
- Understanding the main models and algorithm and select one to make predictive analysis
- Running a predictive analysis using Machine Learning techniques
- Using your own judgment to evaluate quality of predictions

Mode de contrôle des connaissances :

- Exercices in class will give individual bonus if done or malus if not done on final grade
- Final group presentation will by teams will be graded on a scale of 20 points .

The grading will be addition of results in class plus grading for the final presentation

The passing grade for a course is 10/20.

Class participation: Active class participation – this is what makes classes lively and instructive. Come on time and prepared. Class participation is based on quality of comments, not quantity.

Exam policy: In the exam, students will not be allowed to bring any document (except if allowed by the lecturer). Unexcused absences from exams or failure to submit cases will result in zero grades in the calculation of numerical averages. Exams are collected at the end of examination periods.

Bibliographie, lectures recommandées :

- R for datascience Hadley Wickam O'Reilly
- Machine Learning with R Brett Lantz Packt Publishing 1/2

- www.dataiku.com
- <https://www.datacamp.com/courses/free-introduction-to-r>

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