**Machine Learning: Fundamentals and Algorithms**

**Course level:** Master [M1]  
**Track(s):** [MLDM, DSC]  
**ECTS Credits:** 4

**Course instructors:** [Ievgen Redko, Amaury Habrard]  
**Education period:** [2nd] semester  
**Language of instruction:** English  
**Expected prior-knowledge:** [Data Analysis, Optimization and Operation Research]

**Aim and learning outcomes:** This course introduces fundamental concepts in machine learning and presents some classical approaches and algorithms. The scikit-learn library is presented during the practical sessions. The course aims at providing fundamental basics for using machine learning techniques.

**Keywords:** [Machine Learning, SVM, Decision Trees, Deep Learning, HMM]

**Syllabus:**  
- Decision trees and Random Forests  
- Hidden Markov Model  
- Introduction to Support Vector Machines  
- Neural Networks and Deep Learning  
- Practical: Introduction to Scikit-learn

**Organisation and timetable:** [Volume CM/TD/TP] Lectures (10h), tutorials (10h) and lab sessions (10h).

**Form(s) of Assessment:** 1 theoretical examination (2h, 2/3), 1/3 practical assignments.

**Literature and study materials:**


**Additional information/Contacts:**

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