UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Computational Statistics

2425-3-E4101B041

Learning objectives

The aim of the course is to illustrate some computational statistical tools which are fundamental for data analysis and modeling.
The course contributes to achieve the educational objectives of the area "Statistics" of the degree program.

Contents

Mixture-based clustering , classification and regression methods.

Detailed program

Mixture models. Model-based clustering. Model-based classification. Mixture of experts models. Data visualization and manipulation (tidyverse).

Prerequisites

Knowledge of the notions given in the courses "Multivariate Statistics" and "Statistics III" is recommended.

Teaching methods

Class lectures and lab sessions.
The lectures will be held in person.

Assessment methods

The exam consists of an intermediate homework, a final project work and a written exam including theory and R script.
The exam is closed-notes and closed-book, but students are allowed to use the R scripts made available by the teacher.
No phones are allowed during the exam.

Textbooks and Reading Materials

- Fruhwirth-Schnatter (2006) Finite mixture and Markov switching models
- McLahan-Peel (2000) Finite_Mixture_Models
- Kabacoff (2018) Data Visualization with R

Further material will be circulated via the e-learning page of the course.

Semester

The course is scheduled in the second term (six weeks) of the first semester.

Teaching language

Italian

Sustainable Development Goals

QUALITY EDUCATION