SYLLABUS DEL CORSO

Metodi Informatici per la Gestione Aziendale

2021-3-E3101Q131

Aims

The course aims at providing the student with the following professional skills:

- analysis of the main tasks in the organization and management of a company
- reading and interpretation of a company balance sheet
- Machine Learning based techniques for data analytics.
- analysis of specific problems with development of machine learning   applications in R.

During the labs, business analytics skills are acquired, specifically focusing on the R language for marketing data modelling and analysis.

Particular emphasis will be given to the analysis of specific problems in the marketing field, to the presentation of specific data sets, to the development of machine learning applications for marketing data analysis in R and to the evaluation of the results.

Contents

The course is divided into four modules:

1. Organization and business management
2. Marketing analytics techniques
3. Analysis of specific marketing problems and development of R applications
4. Analysis of consumer choices

The main contents of the course are:

- _____
  - _____
  - financial statements
  - Business finance

- _____
  - _____
  - Product and customer analytics
  - Marketing mix and attribution modelling
  - ___

- ___
  - __
  - Price elasticity
  - Modelling consumer decisions

- _____
  - _____
  - _____

  - Development of machine learning application in R

Detailed program

1. ***Organization and business management***
   - __
   - Corporate finance

- _____
  - _____
  - Product and customer analytics
  - Marketing mix and attribution modelling
  - Recommender systems

- _____
  - __
  - Price elasticity
  - Modelling consumer decisions

4. ***Analysis of specific marketing problems***
   - _____
   - Preparation and visualization of the data: Business Intelligence (BI) and Data Modeling in the company environment
   - Data processing: introduction to the main machine learning techniques for marketing data analysis (e.g. regression, classification, clustering)

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  - __
  - _____
  - Application development of machine learning in R

Prerequisites

- Probability and statistics for IT

- Software analysis and design

Teaching form

The training activity will be divided into:

- lectures: in which the topics of microeconomics and organization and business management will be presented
- tutorials and laboratories: in which marketing data analytics topics will be presented with specific applications with real data. These activities will be preparatory to the planning and development of the end-of-course project which, for example, may consist in the implementation of a recommender system.may consist in the implementation of marketing analytics applications.

The course is *taught in Italian*.

Textbook and teaching resource

- **Digital marketing. Data, analytics, tecnologie e canali digitali**, Nico Di Domenica, Attilio Redivo, Edoardo Rozzoni, Gianluca Crippa, *Pearson Education Italia*
- **Hands-On Data Science for Marketing**, Yoon Hyup Hwang, *Packt*
- **R for Marketing Research and Analytics**, Chris N. Chapman, Elea McDonnell Feit Chapman, *Elea*

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- Additional material eg links to news, forums, specific web resources on the topics covered in class

Semester

First semester

Assessment method

The exam will be organized as follow:

Oral exam:

- Implementation of an application in R for the analysis of marketing data.
- Report
- Oral discussion of the project using a set of slides, with possible questions on the topics covered in the classroom on points 4,5.

Delivery times will be communicated on Moodle.

Office hours

The two instructors are available for meet students or immediately after the lectures or setting up a meeting anytime in office hours by email.

During the COVID emergency period oral examinations will take place remotely through thr Webex platform.On the e-learning page of the coursethere will be apublic linkfor accessing to the examination of possible virtual spectators.