

“Advances and Challenges in Business Intelligence and Big Data”

A Course for PhD students, University of Bologna,
April-May, 2017

Instructors and affiliation	Stefano Rizzi, Enrico Gallinucci <i>(DISI, University of Bologna)</i>
Time span	20 hours
Final exam	Workshop

Course Outline

The course discusses some relevant research themes in the area of Data Warehousing, OLAP, and Business Intelligence, also with reference to big data settings.

Objectives

Business intelligence (BI) is a business management term that indicates the capability of adding more intelligence to the way business is done by companies. More precisely, it refers to a set of software tools and techniques that enable a company to transform its business data into timely and accurate information for the decisional process. The course will first introduce the main topics related to BI; in particular, the basic level of the BI pyramid will be discussed, namely data warehousing. Some relevant research themes in the area of BI, also with reference to big data settings, will then be explored.

Program:

- Introduction to business intelligence
- Data warehouse basics: architectures, the multidimensional model, OLAP
- Methodological issues in data warehouse design: the DW life-cycle, multidimensional modeling
- Research issues in BI 2.0: pervasive BI, collaborative BI, social BI, exploratory BI on big data

The course is oriented to PhD students in the areas of information systems and databases, and also computer science/computer engineering in general.

Learning and assessment modalities

The course will be organised in six slots of two/three hours each, plus three hours for the final assessment. It will be taught in either Italian or English at the preference of the convenors.

The final assessment consists of a workshop where each student will give a talk about a research approach in the literature agreed with the instructor.

Materials

All the course material is in English. A copy of slides and references will be provided to students.

Detailed topics/Schedule

April/May 2017, seven days (20 hs)

April 3, 10-13, Sala Consiglio

Introduction to business intelligence, data warehousing, and OLAP

Stefano Rizzi

April 10, 10-13, Sala Consiglio

Methodological issues in data warehouse design

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April 20, 14-16, Sala Consiglio

BI 2.0: Collaborative BI

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April 26, 10-13, Sala Consiglio

BI 2.0: Pervasive BI

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May 3, 10-13, Sala Consiglio

BI 2.0: Social BI

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May 19, 10-13, Sala Consiglio

BI 2.0: Exploratory BI on big data

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May 24, 10-13, Sala Consiglio

Final assessment

Stefano Rizzi