Data Mining

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Contents

- I. Introduction
- II. Cluster Analysis
- III. Nearest Neighbor Strategies
- IV. Latent Variables Analysis
- V. Association Analysis

DM:2 Introduction

Objectives

- understand and explain the basic concepts of data mining
- understand formalized concepts and methods and be able to implement them in the form of algorithms
- sensibly select, adapt, and apply relevant methods
- being able to educate oneself

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Related Fields

- 1. Statistics [paradigms, models]
- 2. Mathematics
- 3. Information Retrieval [methods, algorithms]
- 4. Knowledge Processing
- 5. Heuristic Search
- Decision Support Systems
- 7. Business Intelligence
- 8. Web Technology

[applications]

Literature

Data Mining:

- D. Hand, H. Mannila, P. Smyth.
 Principles of Data Mining
 Bradford, 2001.
- P.N. Tan, M. Steinbach, V. Kumar.
 Introduction to Data Mining
 1st edition, Addison Wesley, 2005.
- □ I.H. Witten, E. Frank.

 Data Mining: Practical Machine Learning Tools and Techniques

 3rd edition, Morgan Kaufmann, 2011.

Software

Programming:

Eclipse Foundation, Inc., Canada.
 Eclipse SDK
 Version 4.5. www.eclipse.org/downloads

Statistics:

R Development Core Team.

R

Version 3.2. www.r-project.org

□ E. Jones, T. Oliphant, P. Peterson and others.

SciPy

Version 0.16. www.scipy.org

J.W. Eaton.

GNU Octave

Version 4.0. www.gnu.org/software/octave