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Educational Data Mining with R and Rattle

Authors:

R.S. Kamath, Chhatrapati Shahu Institute of Business Education and Research, Kolhapur, India

R.K. Kamat, Shivaji University, Kolhapur, India

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Description:

Educational Data Mining (EDM) is one of the emerging fields in the pedagogy and andragogy paradigm, it concerns the techniques which research data coming from the educational domain. EDM is a promising discipline which has an imperative impact on predicting students' academic performance. It includes the transformation of existing, and the innovation of new approaches derived from multidisciplinary spheres of influence such as statistics, machine learning, psychometrics, scientific computing etc.

An archetype that is covered in this book is that of learning by example. The intention is that reader will easily be able to replicate the given examples and then adapt them to suit their own needs of teaching-learning. The content of the book is based on the research work undertaken by the authors on the theme "Mining of Educational Data for the Analysis and Prediction of Students' Academic Performance". The basic know-how presented in this book can be treated as guide for educational data mining implementation using R and Rattle open source data mining tools.

Technical topics discussed in the book include:

- Emerging Research Directions in Educational Data Mining
- Design Aspects and Developmental Framework of the System
- Model Development Building Classifiers
- Educational Data Analysis: Clustering Approach

Keywords: Educational Data Mining, R Systems, Rattle, EDM Process, Data Exploration, Descriptive and Predictive Analytics, Classifiers, Clustering, Decision Tree, Artificial Neural Network, Naïve Bayes Classifier, K-Means, Hierarchical Clustering, Student Segmentation