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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end od each chapters and index.
Nota di contenuto	Part I. At the intersection of two fields: EDM -- Educational process mining: A tutorial and case study using Moodle data sets / Christobal Romero, Rebeca Cerezo, Alejandro Bogarin, and Mlguel Sanchez-Santillan -- On big data and text mining in the humanities / Geoffrey Rockwell and Bettina Berendt -- Finding predictor in higher education / David Eubanks, William Evers Jr., and Nancy Smith -- Educational data mining: A MOOC experience / Ryan S. Baker, Yuan Wang, Luc Paquette, Vincent Aleven, Octav Popsecu, Jonathan Sewall, Carolyn Rose, Gaurav Singh Tomar, Oliver Ferschke, Jing Zhang, Michael J. Cennamo, Stephanie Ogden, Therese Condit, Jose Diaz, Scott Crossley, Danielle S. McNamara, Denise K. Comer, Collin F. Lynch, Rebecca Brown, Tiffany Barnes, and Yoav Bergner -- Data mining and action research / Ellina Chernobilsky, Edith Ries, and Joanna Jasmine -- Part II. Pedagogical applications of EDM -- Design of an adaptive learning system and educational data mining / Zhiyong Liu and Nlck Cercone -- The "Geometry" of naive Bayes: Teaching probabilities by "drawing" them /

Giorgio Maria Di Nunzio -- Examining the learning networks of a MOOC / Meaghan Brugh and Jean-Paul Restoule -- Exploring the usefulness of adaptive elearning laboratory environments in teaching medical science / Thuan Thai and Patsie Polly -- Investigating co-occurrence patterns of learners' grammatical errors across proficiency levels and essay topics based on association analysis / Yutaka Ishii -- Part III. EDM and educational research -- Mining learning sequences in MOOCs: Does course design constrain students' behaviors or do students shape their own learning? / Lorenzo Vigentini, Simon McIntyre, Negin Mirriahi, and Dennis Alonzo -- Understanding communication patterns in MOOCs: Combining data mining and qualitative methods / Rebecca Eynon, Isis Hjorth, Taha Yasseri, and Nabeel Gillani -- An example of data mining: Exploring the relationship between applicant attributes and academic measures of success in a pharmacy program / Dion Brocks and Ken Cor -- A new way of seeing: Using a data mining approach to understand children's views of diversity and "difference" in picture books / Robin A. Moeller and Hsin-liang Chen -- Data mining with natural language processing and corpus linguistics: Unlocking access to school children's language in diverse contexts to improve instructional and assessment practices / Alison L. Bailey, Anne Blackstock-Bernstein, Eve Ryan, and Despina Pitsoulakis.

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### Sommario/riassunto

Addresses the impacts of data mining on education and reviews applications in educational research teaching, and learning This book discusses the insights, challenges, issues, expectations, and practical implementation of data mining (DM) within educational mandates. Initial series of chapters offer a general overview of DM, Learning Analytics (LA), and data collection models in the context of educational research, while also defining and discussing data mining's four guiding principles— prediction, clustering, rule association, and outlier detection. The next series of chapters showcase the pedagogical applications of Educational Data Mining (EDM) and feature case studies drawn from Business, Humanities, Health Sciences, Linguistics, and Physical Sciences education that serve to highlight the successes and some of the limitations of data mining research applications in educational settings. The remaining chapters focus exclusively on EDM's emerging role in helping to advance educational research—from identifying at-risk students and closing socioeconomic gaps in achievement to aiding in teacher evaluation and facilitating peer conferencing. This book features contributions from international experts in a variety of fields. Includes case studies where data mining techniques have been effectively applied to advance teaching and learning Addresses applications of data mining in educational research, including: social networking and education; policy and legislation in the classroom; and identification of at-risk students Explores Massive Open Online Courses (MOOCs) to study the effectiveness of online networks in promoting learning and understanding the communication patterns among users and students Features supplementary resources including a primer on foundational aspects of educational mining and learning analytics Data Mining and Learning Analytics: Applications in Educational Research is written for both scientists in EDM and educators interested in using and integrating DM and LA to improve education and advance educational research.

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