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| 1. Record Nr.           | UNINA9910299767703321  |
| Titolo                  | Data Science, Learning by Latent Structures, and Knowledge Discovery /<br>/ edited by Berthold Lausen, Sabine Krolak-Schwerdt, Matthias Böhmer   |
| Pubbl/distr/stampa      | Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer,<br>, 2015  |
| ISBN                    | 3-662-44983-8  |
| Edizione                | [1st ed. 2015.]  |
| Descrizione fisica      | 1 online resource (552 p.)   |
| Collana                 | Studies in Classification, Data Analysis, and Knowledge Organization, ,<br>2198-3321   |
| Disciplina              | 519.5  |
| Soggetti                | Statistics<br>Marketing<br>Psychometrics<br>Biometry<br>Data mining<br>Operations research<br>Biostatistics<br>Data Mining and Knowledge Discovery<br>Operations Research and Decision Theory  |
| Lingua di pubblicazione | Inglese  |
| Formato                 | Materiale a stampa   |
| Livello bibliografico   | Monografia   |
| Note generali           | Description based upon print version of record.  |
| Nota di bibliografia    | Includes bibliographical references at the end of each chapters and<br>index.  |
| Nota di contenuto       | Part I Invited Papers: Modernising Official Statistics - A Complex<br>Challenge -- A New Supervised Classification of Credit Approval Data<br>via the Hybridized RBF Neural Network Model Using Information<br>Complexity -- Finding the Number of Disparate Clusters with<br>Background Contamination -- Clustering of Solar Irradiance -- Part II<br>Data Science and Clustering: Factor Analysis of Local Formalism --<br>Recent progress in Complex Network Analysis – Models -- Recent<br>Progress in Complex Network Analysis – Results -- Similarity Measures<br>of Concept Lattices -- Flow-Based Dissimilarities: Shortest Path,<br>Commute Time, Max-Flow and Free Energy -- Resampling Techniques<br>in Cluster Analysis – Is Subsampling Better Than Bootstrapping? -- On-<br>Line Clustering of Functional Boxplots for Monitoring Multiple |

Streaming Time Series -- Smooth Tests of Fit for Gaussian Mixtures -- Part III Machine Learning and Knowledge Discovery: P2P RVM for Distributed Classification -- Selecting a Multi-Label Classification Method for an Interactive System -- Visual Analysis of Topics in Twitter Based on Co-Evolution of Terms -- Incremental Weighted Naive Bayes Classifiers for Data Stream -- SVM Ensembles are Better When Different Kernel Types are Combined -- Part IV Data Analysis in Marketing: Ratings-Based Versus Choice-Based Conjoint Analysis for Predicting Choices -- A Statistical Software Package for Image Data Analysis in Marketing -- The Bass Model as Integrative Diffusion Model - A Comparison of Parameter Influences -- Preference Measurement in Complex Product Development -- A Comparison of Two-Stage SEM Approaches -- Combination of Distances and Image Features for Clustering Image Data Bases -- A Game Theoretic Product Design Approach Considering Stochastic Partworth Functions -- Key Success-Determinants of Crowdfunded Projects -- An Exploratory Analysis -- Preferences Interdependence among Family Members -- Case III/APIM Approach -- Part V Data Analysis in Biostatistics and Bioinformatics: Evaluation for Cell Line Suitability for Disease Specific Perturbation Experiments -- Effect of Hundreds Sequenced Genomes on the Classification of Human Papilloma Viruses -- Donor Limited Hot Deck Imputation -- A Constrained Optimization Problem -- Classification and Data Set Analysis Using Ensembles of Representative Prototype Sets -- Event Prediction in Pharyngeal High-Resolution Manometry -- Edge Selection in a Noisy Graph by Concept Analysis -- Application to a Genomic Network -- Part VI Data Analysis in Education and Psychology: Linear Modelling of Differences in Teacher Judgment Formation of School Tracking Recommendations -- Psychometric Challenges in Modeling Scientific Problem-Solving Competency -- An Item Response Theory Approach -- The Luxembourg Teacher Databank 1845-1939. Academic Research into the Social History of the Luxembourg Primary School Teaching Staff -- Part VII Data Analysis in Musicology: Correspondence Analysis, Cross-Autocorrelation and Clustering in Polyphonic Music -- Impact of Frame Size and Instrumentation on Chroma-Based Automatic Chord Recognition -- Interpretable Music Categorisation Based on Fuzzy Rules and High-Level Audio Features -- Part VIII Data Analysis in Communication and Technology: What is in a Like? Preference Aggregation on the Social Web -- Predicting Micro-Level Behavior in Online Communities for Risk Management -- Human Performance Profiling While Driving a Sidestick-Controlled Car -- Multivariate Landing Page Optimization Using Hierarchical Bayes CBC Analysis -- Hellinger Distance Based Feature Construction with Applications to the FACT Experiment -- Part IX Data Analysis in Administration and Spatial Planning: Hough Transform and Kirchhoff Migration for Supervised GPR Data Analysis -- Application of Hedonic Methods in Modelling Real Estate Prices in Poland -- Smart Growth Path as the Basis for the European Union Countries Typology -- The Influence of Upper Level NUTS on Lower Level Classification of EU Regions -- Part X Data Analysis in Library Science: Multilingual Subject Retrieval -- Bibliotheca Alexandrina's Subject Authority File and Linked Subject Data -- The VuFind Based "MT-Katalog" -- A Customized Music Library Service at the University of Music and Drama Leipzig.

## Sommario/riassunto

This volume comprises papers dedicated to data science and the extraction of knowledge from many types of data: structural, quantitative, or statistical approaches for the analysis of data; advances in classification, clustering, and pattern recognition methods; strategies for modeling complex data and mining large data sets; applications of advanced methods in specific domains of practice. The contributions

offer interesting applications to various disciplines such as psychology, biology, medical and health sciences; economics, marketing, banking, and finance; engineering; geography and geology; archeology, sociology, educational sciences, linguistics, and musicology; library science. The book contains the selected and peer-reviewed papers presented during the European Conference on Data Analysis (ECDA 2013) which was jointly held by the German Classification Society (GfKI) and the French-speaking Classification Society (SFC) in July 2013 at the University of Luxembourg.

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