

Contents

Part I Classification and Data Analysis

Robust Random Effects Models: A Diagnostic Approach Based on the Forward Search	3
Bruno Bertaccini and Roberta Varriale	
Joint Correspondence Analysis Versus Multiple Correspondence Analysis: A Solution to an Undetected Problem	11
Sergio Camiz and Gastão Coelho Gomes	
Inference on the CUB Model: An MCMC Approach	19
Laura Deldossi and Roberta Paroli	
Robustness Versus Consistency in Ill-Posed Classification and Regression Problems	27
Robert Hable and Andreas Christmann	
Issues on Clustering and Data Gridding	37
Jukka Heikkonen, Domenico Perrotta, Marco Riani, and Francesca Torti	
Dynamic Data Analysis of Evolving Association Patterns	45
Alfonso Iodice D'Enza and Francesco Palumbo	
Classification of Data Chunks Using Proximal Vector Machines and Singular Value Decomposition	55
Antonio Irpino, Mario Rosario Guarracino, and Rosanna Verde	
Correspondence Analysis in the Case of Outliers	63
Anna Langovaya, Sonja Kuhnt, and Hamdi Chouikha	
Variable Selection in Cluster Analysis: An Approach Based on a New Index	71
Isabella Morlini and Sergio Zani	

A Model for the Clustering of Variables Taking into Account External Data	81
Karin Sahmer	
Calibration with Spatial Data Constraints	89
Ivan Arcangelo Sciascia	
 Part II Data Mining	
Clustering Data Streams by On-Line Proximity Updating	97
Antonio Balzanella, Yves Lechevallier, and Rosanna Verde	
Summarizing and Detecting Structural Drifts from Multiple Data Streams	105
Antonio Balzanella and Rosanna Verde	
A Model-Based Approach for Qualitative Assessment in Opinion Mining	113
Maria Iannario and Domenico Piccolo	
An Evaluation Measure for Learning from Imbalanced Data Based on Asymmetric Beta Distribution	121
Nguyen Thai-Nghe, Zeno Gantner, and Lars Schmidt-Thieme	
Outlier Detection for Geostatistical Functional Data: An Application to Sensor Data	131
Elvira Romano and Jorge Mateu	
Graphical Models for Eliciting Structural Information	139
Federico M. Stefanini	
Adaptive Spectral Clustering in Molecular Simulation	147
Marcus Weber	
 Part III Applications	
Spatial Data Mining for Clustering: An Application to the Florentine Metropolitan Area Using RedCap	157
Federico Benassi, Chiara Bocci, and Alessandra Petrucci	
Misspecification Resistant Model Selection Using Information Complexity with Applications	165
Hamparsum Bozdogan, J. Andrew Howe, Suman Katragadda, and Caterina Liberati	
A Clusterwise Regression Method for the Prediction of the Disposal Income in Municipalities	173
Paolo Chirico	

A Continuous Time Mover-Stayer Model for Labor Market in a Northern Italian Area	181
Fabrizio Cipollini, Camilla Ferretti, Piero Ganugi, and Mario Mezzanzanica	
Model-Based Clustering of Multistate Data with Latent Change: An Application with DHS Data	189
José G. Dias	
An Approach to Forecasting Beanplot Time Series	197
Carlo Drago and Germana Scepi	
Shared Components Models in Joint Disease Mapping: A Comparison...	207
Emanuela Dreassi	
Piano and Guitar Tone Distinction Based on Extended Feature Analysis	215
Markus Eichhoff, Igor Vatulkin, and Claus Weihs	
Auralization of Auditory Models	225
Klaus Friedrichs and Claus Weihs	
Visualisation and Analysis of Affiliation Networks as Tools to Describe Professional Profiles	233
Cristiana Martini	
Graduation by Adaptive Discrete Beta Kernels	243
Angelo Mazza and Antonio Punzo	
Modelling Spatial Variations of Fertility Rate in Italy	251
Massimo Mucciardi and Pietro Bertuccelli	
Visualisation of Cluster Analysis Results	261
Hans-Joachim Mucha, Hans-Georg Bartel, and Carlos Morales-Merino	
The Application of M-Function Analysis to the Geographical Distribution of Earthquake Sequence	271
Eugenia Nissi, Annalina Sarra, Sergio Palermi, and Gaetano De Luca	
Energy Consumption – Gross Domestic Product Causal Relationship in the Italian Regions	279
Antonio Angelo Romano and Giuseppe Scandurra	