

CV Antonio Irpino

Born November, 18th, 1972

Nationality: Italian

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Second University of Naples
Associate Professor of Statistics
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Fields of research:

- Exploratory data analysis
- Symbolic data analysis
- Distributional data analysis
- Machine learning
- Data Science
- Big Data

EDUCATION

Nov. 1997 to Mar. 2001

Ph.D. XIII cycle in Computational statistics and its applications,
Dept. of Mathematics and Statistics,
University of Naples "Federico II"

Dissertation: "Estrazione di conoscenza da oggetti descritti da variabili modali attraverso Reticoli di Galois" (in Italian), (Knowledge extraction from objects described by modal variables by means of Galois Lattices")

Chair, Prof. N. C. Lauro.

Nov. 1991 to Jul. 1997

Degree of Doctor in Economics and Commerce

Dissertation: "Tecniche fattoriali per l'Analisi di Dati Simbolici" (Factorial techniques for Symbolic Data Analysis),

Chair, Prof. N. C. Lauro.

EMPLOYMENT

Nov., 1st 2015

Associate Professor of Statistics

Second University of Naples, Caserta (Italy)

Until July, 4th , 2016 at Dept. of Political Sciences "J. Monnet"

Since July, 5th 2016 at Dept. of Mathematics and Physics

Feb., 1st 2007 to Oct. 31, 2015

Researcher and assistant professor of statistics

Second University of Naples, Caserta (Italy)

Dept. of Political Sciences "J. Monnet"

HONORS AND AWARDS

June 2018

Invited scholar at Univ. Complutense de Madrid, dept. of Computer science, invitation from prof. J. Arroyo-Gallardo(7 days)

Nov-Dec 2015

Invited professor at CIN dell'UFPE (Universidade Federal de Pernambuco), Recife, Brasil.

2004-2005

Post-graduate grant as ICT Expert

Centro Regionale di Competenza sulle Tecnologie del Software

University of Sannio, Benevento

2003-2004

Research grant

"Classification techniques for Symbolic"

Dept. of Business strategies and quantitative methods

Tutor Prof. R. Verde

Second University of Naples

2002-2003

Post-doc research grant in Statistics

"Data Mining and Symbolic Data Analysis"

Dept. of Business strategies and quantitative methods

Tutor Prof. R. Verde

Second University of Naples

2001-2003

Research grant, European Research project ASSO,

Dept. of Mathematics and Statistics

University of Naples "Federico II", Italy

PI Prof. Carlo N. Lauro

2000

Teaching qualification for secondary schools in "Applied Mathematics"

Apr. - Jul. 1999

Visiting PhD student at CEREMADE - Centre De Recherche en Mathématiques de la Décision -, Université Paris IX Dauphine, e presso l'INRIA, - Institute National De Recherche en Informatique et en Automatique – Roquencourt, Parigi, sotto la supervisione del prof. E.Diday e Y. Lechevallier..

Theme of research: Complete classification of structured and complex data.

ASSOCIATION MEMBERSHIPS

- since 2004 member of SIS - Italian Statistical Society
- since 2006 member of CLADAG- SIS (SIS group on classification and data analysis)
- since 2017 member of S&DS – SIS (SIS group on Statistics and Data Science)
- since 2012 member of IASC-ISI
- since 2016 member of ISI

REVIEWING ACTIVITIES

- JSDA, Electronic Journal of Symbolic Data Analysis: <http://www.jsda.unina2.it>.
- Computational Statistics, Springer-Verlag.
- Pattern recognition, Elsevier.
- Journal of Multivariate Analysis, Elsevier.
- ACM Transactions on Knowledge Discovery in Data
- ADAC Advances in Data Analysis and Classification, Springer
- CSDA Computational statistics and Data Analysis, Elsevier
- Revue MODULAD
- Information Science

FUNDINGS AND PARTICIPATIONS TO RESEARCH PROJECTS

- 2014-2015 - Scientific responsible for the research WP on "New services" of the regional research project: "Osservatorio del Sistema Universitario campano" CUP C68F09000130002, - P.O. FESR Campania 2007-2013 – O.O.2.1 "Interventi su Aree Scientifiche di Rilevanza Strategica", funded by Regione Campania.
- 2011 Department research project: Clustering methods for the segmentation of the Italian tourists, PI Antonio Irpino, (01/01/2011 - 30/06/2012).
- 2010 Department research project: Supervised and unsupervised classification for structured and distributed data. PI Prof. Rosanna VERDE, (01/01/2010 - 30/06/2011).
- 2009 Department research project: Analysis methods for Data Streams. PI Prof. Rosanna VERDE, (01/01/2009 - 30/06/2010).
- 2008 Department research project: Clustering methods for structured data, PI. Prof. Rosanna VERDE, (01/11/2007 - 31/12/2008):

- 2005 Regional research project L.5, "Development of techniques of analysis of complex data for the definition of an internal rating system and the evaluation of the default risk for PMI according to Basel II agreement", funded by Regione Campania, PI Prof. R. Verde (Second University of Naples). Main activities: Methodological development and software implementation.
- 2004-2005 PRIN Italian project, "Regulatory Impact Analysis" PI Prof M. Scudiero (University of Naples "Federico II"), Local resp. Prof. R. Verde (Second University of Naples).. Main activity: Methodological development.
- 2001-2003 European project ASSO - Analysis System of Symbolic Official data - IST-2000-25161, PI Prof. Monique Noirhomme (FUNDP-Namur, Belgium), Scientific responsible Prof. Edwin Diday (Univ. Paris IX – Dauphine - Francia). Main activities: Methodological development and software implementation.
- 2001-2003 MURST Italian Research project, "Methods for extraction, validation and representation of statistical information in a decision-making context". PI Prof R. Siciliano (University of Naples "Federico II"), Local resp. Prof. R. Verde (Second University of Naples). Main activities: Methodological development and software implementation.
- 2000- 2002 MURST Italian Research project, "Data mining and Symbolic data Analysis", PI Prof C. Lauro (University of Naples "Federico II"). Local resp. Prof. R. Verde (Second University of Naples). Main activities: Methodological development and software implementation.
- 1999- 2001 MURST Italian Research project, "Statistical models of classification for the analysis of data structured in complex form: methods, software and applications" PI Prof R. Siciliano (University of Naples "Federico II"), Local resp. Prof. R. Verde (Second University of Naples). Main activities: Methodological development and software implementation.
- 1998-2000 MURST Italian Research project, "Production and testing of computer assisted systems for the teaching quality survey and placement of graduates", PI Prof. L. Fabbri (University of Padua), Local responsible Prof. S. Balbi (University of Naples "Federico II") . Main activity: Methodological development.

PARTICIPATIONS AND COMMUNICATIONS AT CONFERENCES

- 2018 49th Scientific Meeting of the Italian Statistical Society, SIS 2017, June, Palermo (Italy) (Contributed talk)
- 2018 S&DS SIS group Torino, May, Torino (Italy) (Contributed talk)
- 2018 Workshop: Data Science: New Data, new paradigms, Univ. Paris XIII-Dauphine, January, 2018. (Contributed talk)
- 2017, ISI World Statistics Congress, Marrakech (Morocco), July 2017 (Contributed talk).
- 2017 SIS conference on: Statistics and data science. Florence(Italy), June 2017, (Contributed talk).
- 2016 48th Scientific Meeting of the Italian Statistical Society, SIS 2016 – Program committee member
- 2016 H2DM'16: International Workshop on High Dimensional Data Mining, 7 giugno 2016 Naples (Italy) (Contributed talk)
- 2015 CARME 2015, Naples, Italy (Contributed talk)
- 2015 IFCS 2015, Bologna, Italy, (Contributed talk)
- 2014 COMPSTAT 2014 Geneve, Swiss, (Contributed talk)
- 2012 Workshop on Functional data Analysis, Caserta, Italy (Contributed talk)

- 2012 Workshop on Symbolic Data Analysis, Madrid, Spain (Contributed talk)
- 2012 COMPSTAT 2012 Limasol, Cipro (Contributed talk)
- 2012 CLADAG 2012 Capri (NA) (Contributed talk)
- 2012 SIS 2012 Rome (Contributed talk)
- 2010 CLADAG 2010 Firenze – (Invited talk in a specialized session, Organization of a specialized session on Data Stream analysis)
- 2009 IFCS 2009, Dresden University of Technology. March 13-18, 2009 (Contributed talk)
- 2008 International workshop on Data Stream Management and Mining, October ,27-31, 2008, BEIHANG University, Beijing, (China) (Relazione invitata)
- 2008 SFC-CLADAG 2008 Caserta, Italy (Organizing committee member and Contributed talk)
- 2008 SIS 2008 Arcavacata di Rende, Italy (Invited talk)
- 2007 CLADAG 2007 Macerata, Italy (Contributed talk)
- 2007 European Workshop on Data Streams Analysis, Caserta marzo 2007. (Organizing committee member)
- 2007 Gfkl 2007, Freiburg (Germania) marzo 2007. (Invited talk)
- 2006 Compstat 2006, Roma settembre 2006. (Contributed talk)
- 2006 IFCS 2006, Ljubiana, Slovenia, luglio 2006. (Invited talk)
- 2005 CLADAG 2005, Parma 2005. (Contributed talk)
- 2004 ECML / PKDD 2004 Workshop on Symbolic and Spatial data analysis: mining complex data structures, Pisa. (Contributed talk)
- 2004 XLII Riunione Scientifica della SIS, Bari. (Contributed talk)
- 2003 CLADAG 2003, Bologna. (Contributed talk)
- 2002 XL Riunione Scientifica della SIS, Milano. (Contributed talk)
- 2002 Workshop on SDA – Cracovia (Contributed talk)
- 2002 GfKI 2002– Mannheim (Contributed talk)
- 2000 7/2000 International Symposium On Consensus Methods (IFCS 2000 Namur) (Comunicazione spontanea)
- 1999 16-19/11/99 Ecole Modulad-SFDS, Base de données et statistique, Le Croisic: scuola in statistica e database organizzata dalla società francese di statistica
- 1999 4/99 Workshop “Produzione e sperimentazione di sistemi computer assisted per rilevare la qualità della didattica e l’inserimento professionale dei laureati”, Florence, Italy. (Contributed talk)
- 1998 4-6/11/98 NTTTS '98, International seminar on new techniques & technologies for statistics, Sorrento (NA).

ATTENDED COURSES

- 7-11/5/99 Seminar: Self Organizing Maps, Kohonen Maps for clustering data, Prof.T.Kohonen, Univ.Paris 1
- 24/6/99 Seminar: Statistique et Bases de Données, Société Franç. de Statistique, Inst. Poicaré-Paris

TEACHING ACTIVITIES

COURSES

- Jul-Sep. 2015 Tutor at the course of Elements of Statistics - : Prof. Rosanna Verde, CEINGE, Naples: 24 hours on statistical software and the R environment
- since 2015 "Multivariate data analysis", Dept. of Political Sciences "Jean Monnet", Second Univ. of Naples, 6 CFU
- since 2012 "Predictive models", Dept. of Political Sciences "Jean Monnet", Second Univ. of Naples, 6 CFU
- since 2014 "Statistics", Dept. of Political Sciences "Jean Monnet", Second Univ. of Naples, 10 CFU
- 2010-2011 "Statistics", in Benevento, Fac.of Political Studies "Jean Monnet", Second Univ. of Naples, 10 CFU
- 2008-2013 "Statistics for the tourist sector", Fac.of Political Studies "Jean Monnet", Second Univ. of Naples, 10 CFU
- 2007-2008 "Statistics and economics of the monetari and financial markets", Fac. Political Studies "Jean Monnet", Second Univ. of Naples 5 CFU.
- 2007-2008 "Information systems and statistical data analysis", part of the course in "statistical analysis of financial data",Fac. Political Studies "Jean Monnet", Second Univ. of Naples 5 CFU
- 2004-2005 Adjunct Professor in "Data Analysis", Fac. Political Studies "Jean Monnet", Second Univ. of Naples, Belvedere di S. Leucio, CE.
- 2004-2005 Adjunct Professor in "Introduction to the statistics of the monetary and financial markets", Graduate master in "Finance for SME", specialization school "Jean Monnet", Belvedere di S. Leucio, CE.
- 2004 Adjunct Professor in Web applications at the course"E-commerce. IFTS courses, Second Univ. of Naples
- 2002-2003 Adjunct Professor in Computer Science at the IFTS courses, Univ. of Naples "Federico II", coordinated by prof. Natale Carlo Lauro
- 2001-2002 Adjunct Professor in Computer Science for the teachers of the secondary school "Enrico Cocchia", Avellino
- 1999-2002 Tutor at the course in "Statistics for the financial markets" at the specialization school in "Diritto ed Economia della comunità europea" S.Leucio (CE)
- 1999-2003 Tutor at the course in "Statistics", Fac. of Economy, Second Univ. of Naples, Capua, prof. Rosanna Verde.
- 1998-2000 Tutor at the courses in "Market Analysis" and "Statistics I", Faculty of Economics, Un. of Naples "Federico II", Napoli, prof. Simona Balbi
- 2001 "introduzione all'informatica ed ai sistemi di videoscrittura",ISR "G. Moscati" di Avellino

SEMINARS HELD IN ITALY AND ABROAD

- June 2018 Talk: Clustering distributional data (1 hour), Univ. Complutense Madrid, June, 4th , 2018.
- Dec 2015 Seminar: Regression for distributional variables, Dept. of Statistics and Probability, Federal Univ. of Paraiba, João Pessoa, Brasil. (2 hours).
- Nov 2015 Seminar: Distributional data analysis: basic statistics and clustering, CIN - Federal Univ. of Pernambuco, Recife, Brasil (2 hours)

- Sept. 2015 DDA2015: Distributional Data Analysis, Short Course, Polytechnic of Turin, September 29-30, 2015, Seminars at PhD programme.(5 Hours)
- Oct. 2003 Lecturer at the ASSO SCHOOL "Symbolic Data Analysis" organized by the Greek Statistical Service, Athene (Greece).

RESPONSIBILITIES

- Since 2016 Member of the PhD board in "Social and Statistics sciences", University of Naples "Federico II".
- 2008-2013 Member of the PhD board in "Statistics", University of Naples "Federico II".
- 2008-2009 Researcher elected representative in the Board of the Faculty of Political Studies "J. Monnet" Second university of Naples

Main Publications

In journals

1	2017	IRPINO Antonio, VERDE Rosanna, DE CARVALHO Francisco de A.T. (2017). Fuzzy clustering of distributional data with automatic weighting of variable components. INFORMATION SCIENCES, vol. 406-407, p. 248-268, ISSN: 0020-0255, doi: 10.1016/j.ins.2017.04.040
2	2017	Rosanna Verde, Antonio Irpino (2017). Multiple factor analysis of distributional data. STATISTICA APPLICATA, vol. 29, p. 305-330, ISSN: 1125-1964
3	2016	Irpino Antonio, Verde Rosanna, Balzanella Antonio (2016). Dimension Reduction Techniques for Distributional Symbolic Data. IEEE TRANSACTIONS ON CYBERNETICS, vol. 46, p. 344-355, ISSN: 2168-2267, doi: 10.1109/TCYB.2015.2389653
4	2015	Irpino Antonio, Verde Rosanna (2015). Linear regression for numeric symbolic variables: a least squares approach based on Wasserstein Distance. ADVANCES IN DATA ANALYSIS AND CLASSIFICATION, vol. 9, p. 81-106, ISSN: 1862-5347, doi: 10.1007/s11634-015-0197-7
5	2015	Verde Rosanna, Balzanella Antonio, Irpino Antonio (2015). Order statistics for histogram data and a box plot visualization tool. REVUE DES NOUVELLES TECHNOLOGIES DE L'INFORMATION, vol. RNTI-E-29, p. 29-48, ISSN: 1764-1667
6	2014	Antonio Irpino, Rosanna Verde (2014). Basic statistics for distributional symbolic variables: a new metric-based approach. ADVANCES IN DATA ANALYSIS AND CLASSIFICATION, vol. 9, p. 143-175, ISSN: 1862-5347, doi: 10.1007/s11634-014-0176-4
7	2014	Irpino Antonio, Verde Rosanna, De Carvalho Francisco (2014). Dynamic clustering of histogram data based on adaptive squared Wasserstein distances. EXPERT SYSTEMS WITH APPLICATIONS, vol. 41, p. 3351-3366, ISSN: 0957-4174, doi: http://dx.doi.org/10.1016/j.eswa.2013.12.001
8	2014	Concetta Rafaniello, Flavia Lombardo, Carmen Ferrajolo, Liberata Sportiello, Elisabetta Parretta, Ranieri Formica, Simona Potenza, Barbara Rinaldi, IRPINO A, Roberto Raschetti, Nicola Vanacore, Francesco Rossi, Annalisa Capuano (2014). Predictors of mortality in atypical antipsychotic-treated community-dwelling elderly patients with behavioural and psychological symptoms of dementia: a prospective population-based cohort study from Italy. EUROPEAN JOURNAL OF CLINICAL PHARMACOLOGY, vol. 70, p. 187-195, ISSN: 0031-6970, doi: 10.1007/s00228-013-1588-3
9	2013	Verde R, Irpino A., Balzanella A. (2013). Clustering quantified ordinal data distributions. QUADERNI DI STATISTICA, vol. 15, p. 145-170, ISSN: 1594-3739

- 10 2013 Guarracino M.R., Irpino A, Jasinevicius R., Verde R (2013). Fuzzy regularized generalized eigenvalue classifier with a novel membership function. *INFORMATION SCIENCES*, vol. 245, p. 53-62, ISSN: 0020-0255, doi: <http://dx.doi.org/10.1016/j.ins.2013.03.058>
- 11 2013 VERDE Rosanna, IRPINO Antonio (2013). Multiple Linear Regression for Histogram Data using Least Squares of Quantile Functions: a Two-components model.. *REVUE DES NOUVELLES TECHNOLOGIES DE L'INFORMATION*, vol. RNTI-E-25, p. 78-93, ISSN: 1764-1667
- 12 2012 Gallo M, Clavenna A, Bonati M, Siani P, Irpino A, Rossi F, Capuano A (2012). Active surveillance of adverse drug reactions in children infive Italian paediatric wards. *OPEN JOURNAL OF PEDIATRICS*, vol. 2, p. 111-117, ISSN: 2160-8741, doi: 10.4236/ojped.2012.22019
- 13 2012 GUARRACINO M. R., IRPINO, Antonio, Radziukyniene Neringa, VERDE, Rosanna (2012). Supervised Classification of Distributed Data Streams for Smart Grids. *ENERGY SYSTEMS*, vol. 3, p. 95-108, ISSN: 1868-3967, doi: 10.1007/s12667-012-0049-x
- 14 2009 Verde Rosanna, Irpino Antonio (2009). NEW STATISTICS FOR NEW DATA: A PROPOSAL FOR COMPARING MULTIVALUED NUMERICAL DATA. *STATISTICA APPLICATA*, vol. 21, p. 185-206, ISSN: 1125-1964
- 15 2009 CAPUANO A, IRPINO A, GALLO M, FERRANTE L, ILLIANO ML, RINALDI B, FILIPPELLI A, ROSSI F (2009). Regional surveillance of emergency-department visits for outpatient adverse drug events. *EUROPEAN JOURNAL OF CLINICAL PHARMACOLOGY*, vol. 65, p. 721-728, ISSN: 0031-6970
- 16 2008 VERDE R., IRPINO A. (2008). Dynamic clustering of interval data using a Wasserstein-based distance. *PATTERN RECOGNITION LETTERS*, vol. 29, p. 1648-1658, ISSN: 0167-8655, doi: 10.1016/j.patrec.2008.04.008
- 17 2007 IRPINO A, ROMANO E (2007). Optimal histogram representation of large data sets: Fisher vs piecewise linear approximations. *REVUE DES NOUVELLES TECHNOLOGIES DE L'INFORMATION*, vol. 1, p. 99-110, ISSN: 1764-1667
- 18 2006 IRPINO A, TONTODONATO V (2006). Clustering reduced interval data using Hausdorff distance. *COMPUTATIONAL STATISTICS*, vol. 21, p. 271-288, ISSN: 0943-4062
- 19 2006 IRPINO A. (2006). "Spaghetti" PCA analysis: An extension of principal components analysis to time dependent interval data. *PATTERN RECOGNITION LETTERS*, vol. 27, p. 504-513, ISSN: 0167-8655, doi: 10.1016/j.patrec.2005.09.013

In Books

- 1 2016 Rivoli Lidia, Verde Rosanna, Irpino Antonio (2016). The median of a set of histogram data. In: G. Alleva A. Giommi. (a cura di): G. Alleva A. Giommi, *Studies in Theoretical and Applied Statistics Selected Papers of the Statistical Societies*. p. 37-48, Springer International Publishing Switzerland, ISBN: 978-3-319-27272-6, doi: 10.1007/978-3-319-27274-0_4
- 2 2015 Casalino L, D'Ambra P, Guarracino MR, Irpino A, Maddalena L, Maiorano F, Minchiotti G, Patriarca EJ (2015). Image Analysis and Classification for High-Throughput Screening of Embryonic Stem Cells. In: Zazzu V.;Ferraro M.B.;Guarracino M.. (a cura di): Zazzu Ferraro Guarracino, *Mathematical Models in Biology, Proceedings of the First Workshop on Bringing Maths To Life (BMTL 2014)*,. p. 17-31, BERLIN:Springer, ISBN: 978-3-319-23496-0, doi: 10.1007/978-3-319-23497-7_2
- 3 2014 Verde Rosanna, Irpino Antonio, Rivoli Lidia (2014). A Box-Plot and Outliers Detection Proposal for Histogram Data: New Tools for Data Stream Analysis. In: AA.VV.. (a cura di): Vicari Donatella;Okada Akinori;Ragozini Giancarlo;Weihs Claus, *Analysis and Modeling of Complex Data in Behavioral and Social Sciences*. p. 283-291, BERLIN:Springer, ISBN: 978-3-319-06691-2, doi: 10.1007/978-3-319-06692-9_30
- 4 2013 Irpino A., Verde R (2013). A Metric Based Approach for the Least Square Regression of Multivariate Modal Symbolic Data. In: AA.VV.. (a cura di): Paolo Giudici Salvatore Ingrassia

Maurizio Vichi, *Statistical Models for Data Analysis*. p. 161-169, BERLIN:Springer, doi: 10.1007/978-3-319-00032-9_19

- 5 2013 Ferraro M.B., Irpino A., Verde R, Guarracino M.R. (2013). A Novel Feature Selection Method for Classification Using a Fuzzy Criterion. In: AA.VV.. (a cura di): Giuseppe Nicosia Panos Pardalos, *Learning and Intelligent Optimization*. p. 455-467, BERLIN:Springer, ISBN: 978-3-642-44972-7, doi: 10.1007/978-3-642-44973-4_49
- 6 2013 Irpino A., Guarracino M.R., Verde R. (2013). Classification of Data Chunks Using Proximal Vector Machines and Singular Value Decomposition. In: AA:VV.. (a cura di): Giusti Antonio;Ritter Gunter;Vichi Maurizio, *Classification and Data Mining*. vol. XIV, p. 55-62, BERLIN:Springer, ISBN: 978-3-642-28894-4, doi: DOI: 10.1007/978-3-642-28894-4
- 7 2012 De Carvalho F., Irpino A., Verde R (2012). Batch self organizing maps for interval and histogram data. In: Colubi A. Fokianos K. Gonzalez-Rodriguez G. Kontoghiorghes E.. (a cura di): Colubi A. Fokianos K. Gonzalez-Rodriguez G. Kontoghiorghes E., *Proceedings of COMPSTAT 2012*. p. 143-154, Heidelberg:Physica-Verlag HD, ISBN: 978-90-73592-32-2, doi: 10.1007/978-3-7908-2084-3_7
- 8 2011 IRPINO A, IACONO M (2011). Improving the MHIST-p Algorithm for Multivariate Histograms of Continuous Data. In: FICHET B. PICCOLO D. VERDE R. VICHI M.. *Classification and Multivariate Analysis for Complex Data Structures*. p. 155-164, Berlin:Springer, ISBN: 978-3-642-13311-4
- 9 2010 Irpino Antonio, Verde Rosanna (2010). Clustering Linear Models Using Wasserstein Distance. In: PALUMBO F. LAURO C.N. GREENACRE M.J.. (a cura di): Francesco Palumbo;Carlo Natale Lauro;Michael J. Greenacre, *Data Analysis and Classification*. p. 41-48, BERLIN:Springer, ISBN: 978-3-642-03738-2, doi: 10.1007/978-3-642-03739-9_5
- 10 2010 BALZANELLA Antonio, IRPINO Antonio, VERDE Rosanna (2010). Dimensionality reduction techniques for streaming time series: a new symbolic approach. In: LOCAREK-JUNGE HERMANN WEIHS CLAUS. (a cura di): Hermann Locarek-Junge;Claus Weihs, *Classification as a Tool for Research*. p. 381-390, BERLIN:Springer, ISBN: 978-3-642-10744-3, doi: 10.1007/978-3-642-10745-0_41
- 11 2010 IRPINO A., VERDE R. (2010). Ordinary Least Squares for histogram data based on Wasserstein distance. In: Lechevallier Yves Saporta Gilbert. *Proceedings of COMPSTAT'2010*. p. 581-589, Physica Verlag, ISBN: 978-3-7908-2603-6
- 12 2008 VERDE R, IRPINO A (2008). A New interval data distance based on Wasserstein metric. In: AA.VV.. (a cura di): PREISACH C. BURKHARDT H. SCHMIDT-THIENE L. DECKER R., *Data Analysis, Machine Learning and Applications*. p. 705-712, BERLIN:Springer, ISBN: 978-3-540-78239-1, doi: 10.1007/978-3-540-78246-9_83
- 13 2008 Verde. Rosanna, Irpino Antonio, Lauro Natale Carlo (2008). Factor discriminant analysis. In: autori vari. (a cura di): Diday E. Noirhomme-Fraiture M., *Symbolic Data Analysis and the SODAS software*. p. 341-358, Chichester:John Wiley & Sons Ltd,, ISBN: 978-0-470-01883-5
- 14 2008 Verde Rosanna, Irpino Antonio, Lauro Natale Carlo (2008). Generalized canonical analysis on symbolic objects. In: M. NOIRHOMME E. DIDAY. *Symbolic data analysis and the SODAS software*. p. 313-330, New York:Wiley, ISBN: 9780470018835
- 15 2008 Verde Rosanna, Irpino Antonio, Lauro Natale Carlo (2008). Principal component analysis of symbolic data described by intervals. In: M. NOIRHOMME E. DIDAY. *Symbolic data analysis and the SODAS software*. p. 279-312, John Wiley & Sons, Ltd, ISBN: 978-0-470-01883-5, doi: 10.1002/9780470723562.ch15
- 16 2007 Verde Rosanna, Irpino Antonio (2007). Dynamic clustering of histogram data: using the right metric. In: BRITO P. BERTRAND P. CUCUMEL G. DE CARVALHO F.. *Selected contributions in Data Analysis and Classification*. vol. XIII, p. 123-134, Springer, ISBN: 978-3-540-73558-8, doi: 10.1007/978-3-540-73560-1_12
- 17 2006 Verde Rosanna, Irpino Antonio (2006). A new Wasserstein based distance for hierarchical clustering of histogram symbolic data. In: AA.VV.. (a cura di): Vladimir Batagelj;Hans-Hermann Bock;Anuška Ferligoj;Aleš Žiberna, *Data Science and Classification*. p. 185-192, BERLIN:Springer, ISBN: 3-540-34415-2, doi: 10.1007/3-540-34416-0_20

- 18 2006 IRPINO A, VERDE R (2006). A new Wasserstein based distance for the hierarchical clustering of histogram symbolic data. In: BATANJELI BOCK FERLIGOJ ZIBERNA. Data Science and Classification, IFCS 2006. p. 185-192, Berlin:Springer, ISBN: 3-540-34415-2
- 19 2006 Irpino Antonio, Verde Rosanna, Lechevallier Yves (2006). Dynamic clustering of histograms using Wasserstein metric. In: RIZZI A. VICHI M.. (a cura di): Alfredo Rizzi;Maurizio Vichi, COMPSTAT 2006 - Proceedings in Computational Statistics. p. 869-876, Heidelberg:Physica-Verlag, ISBN: 978-3-7908-1708-9
- 20 2004 IRPINO A., VERDE R (2004). Classificazione consenso di dati concettuali mediante reticoli di Galois. In: (a cura di): N.C. Lauro e C. Davino, Data mining e analisi simbolica. p. 81-123, Milano:FrancoAngeli, ISBN: 9788846457493
- 21 2003 IRPINO A, VERDE R (2003). Classificazione consenso di dati simbolici modali attraverso reticoli di Galois. In: LAURO N.C. DAVINO C.. Data mining e Analisi simbolica. p. 81-125, Milano:FrancoAngeli, ISBN: 88-464-5749-8
- 22 2003 Irpino Antonio, Verde Rosanna, Lauro Carlo Natale (2003). Visualizing symbolic data by closed shapes.. In: Schader Martin;Gaul Wolfgang A.;Vichi Maurizio. (a cura di): Schader Martin;Gaul Wolfgang A.;Vichi Maurizio, Between Data Science and Applied Data Analysis. vol. XIII, p. 244-251, Springer, ISBN: 978-3540403548
- 23 2001 BRUZZESE D, IRPINO A (2001). Galois lattices of Modal Symbolic Objets. In: S.BORRA, R.ROCCI, M. VICHI, M. SHANDER. ADVANCES IN CLASSIFICATION AND DATA ANALYSIS. p. 3-10, BERLIN:Springer, ISBN: 978-3540414889
- 24 2000 BRUZZESE D, IRPINO A (2000). Un approccio fuzzy al controllo di coerenza nei questionari computer-assisted. In: CIVARDI FABBRIS. Valutazione della didattica con sistemi computer-assisted. p. 73-82, PADOVA:CLEUP, ISBN: 8871785266

In Proceedings

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Updated on June, 28th, 2018