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Soggetti	Medicine Database management Health informatics Mathematical statistics Information storage and retrieval Artificial intelligence Biomedicine, general Database Management Health Informatics Probability and Statistics in Computer Science Information Storage and Retrieval Artificial Intelligence
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Nota di contenuto	Data Analysis for Image Processing -- RF Inhomogeneity Correction Algorithm in Magnetic Resonance Imaging -- Fully 3D Wavelets MRI Compression -- A New Approach to Automatic Segmentation of Bone in Medical Magnetic Resonance Imaging -- An Accurate and Parallelizable Geometric Projector/Backprojector for 3D PET Image Reconstruction -- Data Visualization -- EEG Data and Data Analysis Visualization -- A

Web Information System for Medical Image Management -- Reliable Space Leaping Using Distance Template -- Decision Support Systems -- A Rule-Based Knowledge System for Diagnosis of Mental Retardation -- Case-Based Diagnosis of Dysmorphic Syndromes -- Bayesian Prediction of Down Syndrome Based on Maternal Age and Four Serum Markers -- SOC: A Distributed Decision Support Architecture for Clinical Diagnosis -- Decision Support Server Architecture for Mobile Medical Applications -- Ordered Time-Independent CIG Learning -- SINCO: Intelligent System in Disease Prevention and Control. An Architectural Approach -- Could a Computer Based System for Evaluating Patients with Suspected Myocardial Infarction Improve Ambulance Allocation? -- On the Robustness of Feature Selection with Absent and Non-observed Features -- Design of a Neural Network Model as a Decision Making Aid in Renal Transplant -- Learning the Dose Adjustment for the Oral Anticoagulation Treatment -- Information Retrieval -- Thermal Medical Image Retrieval by Moment Invariants -- Knowledge Discovery and Data Mining -- Employing Maximum Mutual Information for Bayesian Classification -- Model Selection for Support Vector Classifiers via Genetic Algorithms. An Application to Medical Decision Support -- Selective Classifiers Can Be Too Restrictive: A Case-Study in Oesophageal Cancer -- A Performance Comparative Analysis Between Rule-Induction Algorithms and Clustering-Based Constructive Rule-Induction Algorithms. Application to Rheumatoid Arthritis -- Domain-Specific Particularities of Data Mining: Lessons Learned -- Statistical Methods and Tools for Biological and Medical Data Analysis -- A Structural Hierarchical Approach to Longitudinal Modeling of Effects of Air Pollution on Health Outcomes -- Replacing Indicator Variables by Fuzzy Membership Functions in Statistical Regression Models: Examples of Epidemiological Studies -- PCA Representation of ECG Signal as a Useful Tool for Detection of Premature Ventricular Beats in 3-Channel Holter Recording by Neural Network and Support Vector Machine Classifier -- Finding Relations in Medical Diagnoses and Procedures -- An Automatic Filtering Procedure for Processing Biomechanical Kinematic Signals -- Analysis of Cornea Transplant Tissue Rejection Delay in Mice Subjects -- Toward a Model of Clinical Trials -- Time Series Analysis -- Predicting Missing Parts in Time Series Using Uncertainty Theory -- Classification of Long-Term EEG Recordings -- Application of Quantitative Methods of Signal Processing to Automatic Classification of Long-Term EEG Records -- Semantic Reference Model in Medical Time Series -- Control of Artificial Hand via Recognition of EMG Signals -- Bioinformatics: Data Management and Analysis in Bioinformatics -- SEQPACKER: A Biologist-Friendly User Interface to Manipulate Nucleotide Sequences in Genomic Epidemiology -- Performing Ontology-Driven Gene Prediction Queries in a Multi-agent Environment -- Protein Folding in 2-Dimensional Lattices with Estimation of Distribution Algorithms -- Bioinformatics: Integration of Biological and Medical Data -- Quantitative Evaluation of Established Clustering Methods for Gene Expression Data -- DiseaseCard: A Web-Based Tool for the Collaborative Integration of Genetic and Medical Information -- Biomedical Informatics: From Past Experiences to the Infobiomed Network of Excellence -- Bioinformatics: Metabolic Data and Pathways -- Network Analysis of the Kinetics of Amino Acid Metabolism in a Liver Cell Bioreactor -- Model Selection and Adaptation for Biochemical Pathways -- NeoScreen: A Software Application for MS/MS Newborn Screening Analysis -- Bioinformatics: Microarray Data Analysis and Visualization -- Technological Platform to Aid the Exchange of Information and Applications Using Web Services -- Visualization of Biological Information with Circular Drawings --

Gene Selection Using Genetic Algorithms -- Knowledgeable Clustering of Microarray Data -- Correlation of Expression Between Different IMAGE Clones from the Same UniGene Cluster.

Sommario/riassunto	Thisyear, the5thInternationalSymposiumonMedicalDataAnalysishasexperimented an apparently slight modi?cation. The word "biological" has been added to the title of the conferences. The motivation for this shift goes beyond the wish to attract a diff- ent kind of professional. It is linked to recent trends to produce a shift within various biomedical areas towards genomics-based research and practice. For instance, medical informaticsandbioinformaticsarebeinglinkedina synergicareadenominatedbiom- ical informatics.Similarly,patient careis beingimproved,leadingto conceptsandareas such as molecular medicine, genomic medicine or personalized healthcare. The resultsfromdifferentgenomeprojects,the advancesin systemsbiologyand the integrative approaches to physiology would not be possible without new approaches in data and information processing. Within this scenario, novel methodologies and tools will beneededtolinkclinicalandgenomicinformation,forinstance, forgeneticclinical trials, integrated data mining of genetic clinical records and clinical databases, or gene expression studies, among others. Genomic medicine presents a series of challenges that need to be addressed by researchers and practitioners. In this sense, this ISBMDA conference aimed to become a place where researchers involved in biomedical research could meet and discuss. For this conference, the classical contents of former ISMDA conferences were updated to incorporate various issues from the biological ?elds. Similarly to the incorporation of these new topics of the conference, data analysts will face, in this world of genomic medicine and related areas, signi?cant challenges in research, education and practice.