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Soggetti	Artificial intelligence Medicine Database management Information storage and retrieval Mathematical statistics Pattern recognition Artificial Intelligence Biomedicine, general Database Management Information Storage and Retrieval Probability and Statistics in Computer Science Pattern Recognition
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Nota di contenuto	Medical Analysis and Diagnosis by Neural Networks -- On Applying Supervised Classification Techniques in Medicine -- Methods and Criteria for Detecting Significant Regions in Medical Image Analysis -- Using Bayesian Networks to Model Emergency Medical Services -- Analysis of Strength Data Based on Expert Knowledge -- A Computational Environment for Medical Diagnosis Support Systems -- Automatic Detection of Regions of Interest in Digitized Mammograms for Computer-Aided Diagnosis -- A New Method for Unifying Heterogeneous Databases -- Fatigue Indicators of Drowsy Drivers

Based on Analysis of Physiological Signals -- Secure and Interoperable Document Management over the Internet — The Generic HARP Cross-Security Platform for Clinical Studies -- A Generalized Uncertainty Function and Fuzzy Modeling -- Special Time Series Models for Analysis of Mortality Data -- Knowledge Organisation in a Neonatal Jaundice Decision Support System -- Quasi-Fourier Modeling Individual and Count Outcomes -- An Anatomical and Functional Model for the Study of Cortical Functions -- Predicting the Level of Metabolic Control Using Collaborative Filtering -- Web-Enabled Knowledge-Based Analysis of Genetic Data -- Fuzzy Sets Applied to Image Processing and Quantification of Interstitial Fibrosis and Glomerular Size in Computer Assisted Microscopy -- Cancer Epidemiology of Small Communities: Using a Novel Approach to Detecting Clusters -- Hybrid Pattern Recognition Algorithms with the Statistical Model Applied to the Computer-Aided Medical Diagnosis -- Computer-Aided Diagnosis: Application of Wavelet Transform to the Detection of Clustered Microcalcifications in Digital Mammograms -- A Methodology for Constructing Expert Systems for Medical Diagnosis -- An Expert System for Microbiological Data Validation and Surveillance -- Hierarchical Clustering of Female Urinary Incontinence Data Having Noise and Outliers -- ACMD: A Practical Tool for Automatic Neural Net Based Learning -- Development of a Mammographic Analysis System Using Computer Vision Techniques -- Improvement of a Mammographic CAD System for Mass Detection -- Classification of Gene Expression Data in an Ontology -- Feature Selection Algorithms Applied to Parkinson’s Disease -- A New Model for AIDS Survival Analysis -- A Frequent Patterns Tree Approach for Rule Generation with Categorical Septic Shock Patient Data -- Analysis of Medical Diagnostic Images via the Implementation and Access to a Safe DICOMPACS with a Web Interface: Analysis of Contrast-enhanced CT Imaging of Oral and Oropharyngeal Carcinomas -- Classification of HEp-2 Cells Using Fluorescent Image Analysis and Data Mining -- Multitask Pattern Recognition Algorithm for the Medical Decision Support System -- The Analysis of Hospital Episodes -- Electroshock Effects Identification Using Classification Based on Rules -- Advanced Visualization of 3D data of Intravascular Ultrasound images -- Investigations on Stability and Overoptimism of Classification Trees by Using Cross-Validation -- A Case-Based Approach for the Classification of Medical Time Series -- Binary Vector or Real Value Coding for Secondary Structure Prediction? A Case Study of Polyproline Type II Prediction -- Notes on Medical Decision Model Creation -- Refining the Knowledge Base of an Otoneurological Expert System -- Segmentation of Color Fundus Images of the Human Retina: Detection of the Optic Disc and the Vascular Tree Using Morphological Techniques -- Learning Structural Knowledge from the ECG -- Recurrence Quantification Analysis to Characterise the Heart Rate Variability Before the Onset of Ventricular Tachycardia -- Learning Bayesian-Network Topologies in Realistic Medical Domains.

Sommario/riassunto

The 2nd International Symposium on Medical Data Analysis (ISMDA 2001) was the continuation of the successful ISMDA 2000, a conference held in Fra- furt, Germany, in September 2000. The ISMDA conferences were conceived to integrate interdisciplinary research from scienti?c ? elds such as statistics, s- nal processing, medical informatics, data mining, and biometrics for biomedical data analysis. A number of academic and professional people from those ?elds, including computer scientists, statisticians, physicians, engineers, and others, - alized that new approaches were needed to apply successfully all the traditional techniques, methods, and tools of data analysis to medicine. ISMDA

2001, as its predecessor, aimed to provide an international forum for sharing and exchanging original research ideas and practical development ex- riences. This year we broadened the scope of the conference, to included methods for image analysis and bioinformatics. Both are exciting scienti?c research ?elds and it was clear to the scienti? c committee that they had to be included in the areas of interest. Medicine has been one of the most di?cult application areas for computing. The number and importance of the di?erent issues involved suggests why many data analysis researchers ?nd the medical domain such a challenging ?eld. New interactive approaches are needed to solve these problems.