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Nota di contenuto	Statistical Data Analysis -- Compact and Understandable Descriptions of Mixtures of Bernoulli Distributions -- Multiplicative Updates for L 1- Regularized Linear and Logistic Regression -- Learning to Align: A Statistical Approach -- Transductive Reliability Estimation for Kernel Based Classifiers -- Bayesian Approaches -- Parameter Learning for Bayesian Networks with Strict Qualitative Influences -- Tree Augmented

Naive Bayes for Regression Using Mixtures of Truncated Exponentials: Application to Higher Education Management -- Clustering Methods -- DENCLUE 2.0: Fast Clustering Based on Kernel Density Estimation -- Visualising the Cluster Structure of Data Streams -- Relational Topographic Maps -- Ensemble Learning -- Incremental Learning with Multiple Classifier Systems Using Correction Filters for Classification -- Combining Bagging and Random Subspaces to Create Better Ensembles -- Two Bagging Algorithms with Coupled Learners to Encourage Diversity -- Ranking -- Relational Algebra for Ranked Tables with Similarities: Properties and Implementation -- A New Way to Aggregate Preferences: Application to Eurovision Song Contests -- Trees -- Conditional Classification Trees Using Instrumental Variables -- Robust Tree-Based Incremental Imputation Method for Data Fusion -- Sequence/ Time Series Analysis -- Making Time: Pseudo Time-Series for the Temporal Analysis of Cross Section Data -- Recurrent Predictive Models for Sequence Segmentation -- Sequence Classification Using Statistical Pattern Recognition -- Knowledge Discovery -- Subrule Analysis and the Frequency-Confidence Diagram -- A Partial Correlation-Based Algorithm for Causal Structure Discovery with Continuous Variables -- Visualization -- Visualizing Sets of Partial Rankings -- A Partially Supervised Metric Multidimensional Scaling Algorithm for Textual Data Visualization -- Landscape Multidimensional Scaling -- Text Mining -- A Support Vector Machine Approach to Dutch Part-of-Speech Tagging -- Towards Adaptive Web Mining: Histograms and Contexts in Text Data Clustering -- Does SVM Really Scale Up to Large Bag of Words Feature Spaces? -- Bioinformatics -- Noise Filtering and Microarray Image Reconstruction Via Chained Fourier's -- Motif Discovery Using Multi-Objective Genetic Algorithm in Biosequences -- Soft Topographic Map for Clustering and Classification of Bacteria -- Applications -- Fuzzy Logic Based Gait Classification for Hemiplegic Patients -- Traffic Sign Recognition Using Discriminative Local Features -- Novelty Detection in Patient Histories: Experiments with Measures Based on Text Compression.

Sommario/riassunto

We are proud to present the proceedings of these seventh biennial conference in the Intelligent Data Analysis series. The conference took place in Ljubljana, Slovenia, September 6-8, 2007. IDA continues to expand its scope, quality and size. It started as a small side-symposium as part of a larger conference in 1995 in Baden-Baden (Germany). It quickly attracted more interest in both submissions and attendance as it moved to London (1997) and then Amsterdam (1999). The next three meetings were held in Lisbon (2001), Berlin (2003) and then Madrid in 2005. The improving quality of the submissions has enabled the organizers to assemble programs of ever-increasing consistency and quality. This year we made a rigorous selection of 33 papers out of almost 100 submissions. The resulting oral presentations were then scheduled in a single-track, two-and-a-half-day conference program, summarized in the book that you have before you. In accordance with the stated IDA goal of "bringing together researchers from diverse disciplines," we believe we have achieved an excellent balance of presentations from the more theoretical—both statistical and machine learning—to the more application-oriented areas that illustrate how these techniques can be used in practice. For example, the proceedings include papers with theoretical contributions dealing with statistical approaches to sequence alignment as well as papers addressing practical problems in the areas of text classification and medical data analysis. It is reassuring to see that IDA continues to bring such diverse areas together, thus helping to cross-fertilize these fields.
