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Collana	Lecture Notes in Artificial Intelligence ; ; 4265
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Soggetti	Philosophy and science Artificial intelligence Database management Information storage and retrieval Application software Philosophy of Science Artificial Intelligence Database Management Information Storage and Retrieval Computer Appl. in Administrative Data Processing Computer Appl. in Social and Behavioral Sciences
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Invited Papers -- e-Science and the Semantic Web: A Symbiotic Relationship -- Data-Driven Discovery Using Probabilistic Hidden Variable Models -- Reinforcement Learning and Apprenticeship Learning for Robotic Control -- The Solution of Semi-Infinite Linear Programs Using Boosting-Like Methods -- Spectral Norm in Learning Theory: Some Selected Topics -- Long Papers -- Classification of Changing Regions Based on Temporal Context in Local Spatial Association -- Kalman Filters and Adaptive Windows for Learning in Data Streams -- Scientific Discovery: A View from the Trenches -- Optimal Bayesian 2D-Discretization for Variable Ranking in Regression -- Text Data Clustering by Contextual Graphs -- Automatic Water Eddy

Detection in SST Maps Using Random Ellipse Fitting and Vectorial Fields  
 for Image Segmentation -- Mining Approximate Motifs in Time Series  
 -- Identifying Historical Period and Ethnic Origin of Documents Using  
 Stylistic Feature Sets -- A New Family of String Classifiers Based on  
 Local Relatedness -- On Class Visualisation for High Dimensional Data:  
 Exploring Scientific Data Sets -- Mining Sectorial Episodes from Event  
 Sequences -- A Voronoi Diagram Approach to Autonomous Clustering  
 -- Itemset Support Queries Using Frequent Itemsets and Their  
 Condensed Representations -- Strategy Diagram for Identifying Play  
 Strategies in Multi-view Soccer Video Data -- Prediction of Domain-  
 Domain Interactions Using Inductive Logic Programming from Multiple  
 Genome Databases -- Clustering Pairwise Distances with Missing Data:  
 Maximum Cuts Versus Normalized Cuts -- Analysis of Linux Evolution  
 Using Aligned Source Code Segments -- Rule-Based Prediction of Rare  
 Extreme Values -- A Pragmatic Logic of Scientific Discovery -- Change  
 Detection with Kalman Filter and CUSUM -- Automatic Recognition of  
 Landforms on Mars Using Terrain Segmentation and Classification -- A  
 Multilingual Named Entity Recognition System Using Boosting and C4.5  
 Decision Tree Learning Algorithms -- Model-Based Estimation of Word  
 Saliency in Text -- Regular Papers -- Learning Bayesian Network  
 Equivalence Classes from Incomplete Data -- Interesting Patterns  
 Extraction Using Prior Knowledge -- Visual Interactive Subgroup  
 Discovery with Numerical Properties of Interest -- Contextual  
 Ontological Concepts Extraction -- Experiences from a Socio-economic  
 Application of Induction Trees -- Interpreting Microarray Experiments  
 Via Co-expressed Gene Groups Analysis (CGGA) -- Symmetric Item Set  
 Mining Based on Zero-Suppressed BDDs -- Mathematical Models of  
 Category-Based Induction -- Automatic Construction of Static  
 Evaluation Functions for Computer Game Players -- Databases  
 Reduction Simultaneously by Ordered Projection -- Mapping Ontologies  
 in an Air Pollution Monitoring and Control Agent-Based System --  
 Information Theory and Classification Error in Probabilistic Classifiers  
 -- Checking Scientific Assumptions by Modeling -- Incremental  
 Algorithm Driven by Error Margins -- Feature Construction and  $\epsilon$ -Free  
 Sets in 0/1 Samples -- Visual Knowledge Discovery in Paleoclimatology  
 with Parallel Coordinates -- A Novel Framework for Discovering Robust  
 Cluster Results -- Gene Selection for Classifying Microarray Data Using  
 Grey Relation Analysis.

## Sommario/riassunto

The 9th International Conference on Discovery Science (DS 2006) was held in Barcelona, Spain, on 7–10 October 2006. The conference was collocated with the 17th International Conference on Algorithmic Learning Theory (ALT 2006). The two conferences shared the invited talks. This LNAI volume, containing the proceedings of the 9th International Conference on Discovery Science, is structured in three parts. The first part contains the papers/abstracts of the invited talks, the second part contains the accepted long papers, and the third part the accepted regular (short) papers. Out of 87 submitted papers, 23 were accepted for publication as long papers, and 18 as regular papers. All the submitted papers were reviewed by two or three referees. In addition to the presentations of accepted papers, the DS 2006 conference program consisted of three invited talks, two tutorials, the collocated ALT 2006 conference and the Pascal Dialogues workshop. We wish to express our gratitude to – the authors of submitted papers, – the program committee and other referees for their thorough and timely paper evaluation, – DS 2006 invited speakers Carole Goble and Padhraic Smyth, as well as – drew Ng as joint DS 2006 and ALT 2006 invited speaker, – invited tutorial speakers Luis Torgo and Michael May, – the local organization committee chaired by Ricard Gavalda, – DS

