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Nota di contenuto	Invited Papers -- Learning in Pattern Recognition -- Advances in Predictive Data Mining Methods -- Neural Networks Applied to Image Processing and Recognition -- Multi-valued and Universal Binary Neurons: Learning Algorithms, Application to Image Processing and Recognition -- A Dynamics of the Hough Transform and Artificial Neural Networks -- Applications of Cellular Neural Networks for Shape from Shading Problem -- Learning in Image Pre-Processing and Segmentation -- Unsupervised Learning of Local Mean Gray Values for Image Pre-processing -- Neural Networks in MR Image Estimation from Sparsely Sampled Scans -- Extraction of Local Structural Features in Images by Using a Multi-scale Relevance Function -- Image Retrieval -- Independent Feature Analysis for Image Retrieval -- Non-hierarchical Clustering with Rival Penalized Competitive Learning for Information Retrieval -- Classification and Image Interpretation -- Automatic Design of Multiple Classifier Systems by Unsupervised Learning -- A Comparison between Neural Networks and Decision Trees -- Symbolic Learning and Neural Networks in Document Processing -- Symbolic Learning Techniques in Paper Document Processing -- Recognition of Printed Music Score -- Data Mining -- Reproductive Process-Oriented Data Mining from Interactions between Human and Complex Artifact System -- Generalised Fuzzy Aggregation Operators -- A Data Mining

Application for Monitoring Environmental Risks.

Sommario/riassunto

The field of machine learning and data mining in connection with pattern recognition enjoys growing popularity and attracts many researchers. Automatic pattern recognition systems have proven successful in many applications. The wide use of these systems depends on their ability to adapt to changing environmental conditions and to deal with new objects. This requires learning capabilities on the parts of these systems. The exceptional attraction of learning in pattern recognition lies in the specific data themselves and the different stages at which they get processed in a pattern recognition system. This results a specific branch within the field of machine learning. At the workshop, were presented machine learning approaches for image pre-processing, image segmentation, recognition and interpretation. Machine learning systems were shown on applications such as document analysis and medical image analysis. Many databases are developed that contain multimedia sources such as images, measurement protocols, and text documents. Such systems should be able to retrieve these sources by content. That requires specific retrieval and indexing strategies for images and signals. Higher quality database contents can be achieved if it were possible to mine these databases for their underlying information. Such mining techniques have to consider the specific characteristic of the image sources. The field of mining multimedia databases is just starting out. We hope that our workshop can attract many other researchers to this subject.