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Nota di contenuto	Invited Paper -- Discovering Role of Linguistic Geometry -- Machine Learning and Pattern Recognition -- Elkan's k-Means Algorithm for Graphs -- A Simple Approach to Incorporate Label Dependency in Multi-label Classification -- Methods and Algorithms of Information Generalization in Noisy Databases -- Object Class Recognition Using

SIFT and Bayesian Networks -- Boosting Based Conditional Quantile Estimation for Regression and Binary Classification -- A Fast Fuzzy Cocke-Younger-Kasami Algorithm for DNA and RNA Strings Analysis -- A Fast Implementation of the CT_EXT Algorithm for the Testor Property Identification -- Supervised Probabilistic Classification Based on Gaussian Copulas -- Text-Independent Speaker Identification Using VQ-HMM Model Based Multiple Classifier System -- Towards One-Class Pattern Recognition in Brain Activity via Neural Networks -- Real Time Tracking of Musical Performances -- Recognizing Dactylogical Symbols with Image Segmentation and a New Differentiated Weighting Scheme -- Automatic Learning for Natural Language Processing -- Selecting Candidate Labels for Hierarchical Document Clusters Using Association Rules -- Recognizing Textual Entailment Using a Machine Learning Approach -- Detection of Different Authorship of Text Sequences through Self-organizing Maps and Mutual Information Function -- Supervised Machine Learning for Predicting the Meaning of Verb-Noun Combinations in Spanish -- Hybrid Intelligent Systems and Neural Networks -- On the Structure of Elimination Trees for Bayesian Network Inference -- CBR and Neural Networks Based Technique for Predictive Prefetching -- Combining Neural Networks Based on Dempster-Shafer Theory for Classifying Data with Imperfect Labels -- Stability and Topology in Reservoir Computing -- A Radial Basis Function Redesigned for Predicting a Welding Process -- Dynamic Neural Networks Applied to Melody Retrieval -- Recognition of Huffman Codewords with a Genetic-Neural Hybrid System -- Fraud Detection Model Based on the Discovery Symbolic Classification Rules Extracted from a Neural Network -- Hardware Implementation of Artificial Neural Networks for Arbitrary Boolean Functions with Generalised Threshold Gate Circuits -- Evolutionary Algorithms and Other Naturally-Inspired Algorithms -- Solving No-Wait Flow Shop Scheduling Problems by a Hybrid Quantum-Inspired Evolutionary Algorithm -- Reducing the Search Space in Evolutive Design of ARIMA and ANN Models for Time Series Prediction -- Routing Algorithms for Wireless Sensor Networks Using Ant Colony Optimization -- Approximating Multi-Objective Hyper-Heuristics for Solving 2D Irregular Cutting Stock Problems -- Particle Swarm Optimization with Gravitational Interactions for Multimodal and Unimodal Problems -- Particle Swarm Optimization with Resets -- Improving the Balance between Exploration and Exploitation -- MiTS: A New Approach of Tabu Search for Constructing Mixed Covering Arrays -- On the Best Evolutionary Wavelet Based Filter to Compress a Specific Signal -- Fuzzy Logic -- Financial Time Series Prediction in Cooperating with Event Knowledge: A Fuzzy Approach -- The Fuzzy Syllogistic System -- Big Five Patterns for Software Engineering Roles Using an ANFIS Learning Approach with RAMSET -- New Proposal for Eliminating Interferences in a Radar System -- Type-2 Fuzzy Inference System Optimization Based on the Uncertainty of Membership Functions Applied to Benchmark Problems -- Fuzzy Logic for Parameter Tuning in Evolutionary Computation and Bio-inspired Methods -- Fuzzy Logic Controllers Optimization Using Genetic Algorithms and Particle Swarm Optimization.-FPGA Implementation of Fuzzy System with Parametric Membership Functions and Parametric Conjunctions -- Fuzzy Logic Hardware Implementation for Pneumatic Control of One DOF Pneumatic Robot.

Sommario/riassunto

Artificial intelligence (AI) is a branch of computer science that models the human ability of reasoning, usage of human language and organization of knowledge, solving problems and practically all other human intellectual abilities. Usually it is characterized by the

application of heuristic methods because in the majority of cases there is no exact solution to this kind of problem. Soft computing can be viewed as a branch of AI that deals with the problems that explicitly contain incomplete or complex information, or are known to be impossible for direct computation, i.e., these are the same problems as in AI but viewed from the perspective of their computation. The Mexican International Conference on Artificial Intelligence (MICAI), a yearly international conference series organized by the Mexican Society for Artificial Intelligence (SMIA), is a major international AI forum and the main event in the academic life of the country's growing AI community. In 2010, SMIA celebrated 10 years of activity related to the organization of MICAI as is represented in its slogan "Ten years on the road with AI". MICAI conferences traditionally publish high-quality papers in all areas of artificial intelligence and its applications. The proceedings of the previous MICAI events were also published by Springer in its Lecture Notes in Artificial Intelligence (LNAI) series, vols. 1793, 2313, 2972, 3789, 4293, 4827, 5317, and 5845. Since its foundation in 2000, the conference has been growing in popularity and improving in quality.
