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Nota di contenuto	Invited Talks -- A Bipolar Possibilistic Representation of Knowledge and Preferences and Its Applications -- Statistical Distribution of Chemical Fingerprints -- Fuzzy Transforms and Their Applications to Image Compression -- Neuro-fuzzy Systems -- Development of Neuro-fuzzy System for Image Mining -- Reinforcement Distribution in Continuous State Action Space Fuzzy Q–Learning: A Novel Approach -- Fuzzy Logic and Possibility Theory -- A Possibilistic Approach to Combinatorial Optimization Problems on Fuzzy-Valued Matroids -- Possibilistic Planning Using Description Logics: A First Step -- Multi-lattices as a Basis for Generalized Fuzzy Logic Programming -- A Method for Characterizing Tractable Subsets of Qualitative Fuzzy Temporal Algebrae -- Reasoning and Quantification in Fuzzy Description Logics -- Programming with Fuzzy Logic and Mathematical Functions -- Efficient Methods for Computing Optimality Degrees of Elements in Fuzzy Weighted Matroids -- Imprecise Temporal Interval Relations -- A Many Valued Representation and Propagation of Trust and Distrust -- Pattern Recognition -- SVM Classification of Neonatal Facial Images of Pain -- Performance Evaluation of a Hand Gesture Recognition System

Using Fuzzy Algorithm and Neural Network for Post PC Platform -- Implementation and Performance Evaluation of Glove-Based HCI Methods: Gesture Recognition Systems Using Fuzzy Algorithm and Neural Network for the Wearable PC -- A Hybrid Warping Method Approach to Speaker Warping Adaptation -- Evolutionary Algorithms -- Genetic Programming for Inductive Inference of Chaotic Series -- Evaluation of Particle Swarm Optimization Effectiveness in Classification -- Identification of Takagi-Sugeno Fuzzy Systems Based on Multi-objective Genetic Algorithms -- Genetic Programming and Neural Networks Feedback Linearization for Modeling and Controlling Complex Pharmacogenomic Systems -- OR/AND Neurons for Fuzzy Set Connectives Using Ordinal Sums and Genetic Algorithms -- Control -- Intelligent Track Analysis on Navy Platforms Using Soft Computing -- Software Implementation of Fuzzy Controller with Conditionally Firing Rules, and Experimental Comparisons -- Special Session: CIBB -- Adaptive Feature Selection for Classification of Microscope Images -- Genetic Algorithm Against Cancer -- Unsupervised Gene Selection and Clustering Using Simulated Annealing -- SpecDB: A Database for Storing and Managing Mass Spectrometry Proteomics Data -- NEC for Gene Expression Analysis -- Active Learning with Wavelets for Microarray Data -- Semi-supervised Fuzzy c-Means Clustering of Biological Data -- Comparison of Gene Identification Based on Artificial Neural Network Pre-processing with k-Means Cluster and Principal Component Analysis -- Biological Specifications for a Synthetic Gene Expression Data Generation Model -- Semisupervised Profiling of Gene Expressions and Clinical Data -- Local Metric Adaptation for Soft Nearest Prototype Classification to Classify Proteomic Data -- Learning Bayesian Classifiers from Gene-Expression MicroArray Data -- Special Session: SCIP -- On the Evaluation of Images Complexity: A Fuzzy Approach -- 3D Brain Tumor Segmentation Using Fuzzy Classification and Deformable Models -- A Hybrid Architecture for the Sensorimotor Exploration of Spatial Scenes -- KANSEI-Based Image Retrieval Associated with Color -- Mass Detection in Mammograms Using Gabor Filters and Fuzzy Clustering -- MRF Model-Based Approach for Image Segmentation Using a Chaotic MultiAgent System -- Duality vs Adjunction and General Form for Fuzzy Mathematical Morphology -- A Fuzzy Mathematical Morphology Approach to Multiseeded Image Segmentation -- Neuro-fuzzy Analysis of Document Images by the KERNEL System -- Knowledge Management -- Intelligent Knowledge Capsule Design for Associative Priming Knowledge Extraction -- A Flexible Intelligent Associative Knowledge Structure of Reticular Activating System: Positive/Negative Masking -- Selective Immunity-Based Model Considering Filtering Information by Automatic Generated Positive/Negative Cells -- Exploring the Way for Meta-learning with the Mindful System -- Miscellaneous Applications -- Using Fuzzy Logic to Generate the Mesh for the Finite Element Method -- Unidirectional Two Dimensional Systolic Array for Multiplication in GF(2 m) Using LSB First Algorithm -- Efficient Linear Array for Multiplication over NIST Recommended Binary Fields.

Sommario/riassunto

This volume contains the proceedings of the 6th International Workshop on Soft Computing and Applications (WILF 2005), which took place in Crema, Italy, on September 15–17, 2005, continuing an established tradition of biannual meetings among researchers and developers from both academia and industry to report on the latest scientific and theoretical advances, to discuss and debate major issues, and to demonstrate state-of-the-art systems. This edition of the workshop included two special sessions, sort of sub-workshops, focusing on the application of soft computing techniques (or

computational intelligence) to image processing (SCIP) and bioinformatics (CIBB). WILF began life in Naples in 1995. Subsequent editions of this event took place in 1997 in Bari, in 1999 in Genoa, in 2001 in Milan, and in 2003 back in Naples. Soft computing, also known as computational intelligence, differs from conventional (hard) computing in that, unlike hard computing, it is tolerant of imprecision, uncertainty, partial truth, and approximation. The guiding principle of soft computing is to exploit the tolerance for imprecision, uncertainty, partial truth, and approximation to achieve tractability, robustness, and low solution cost. The main components of soft computing are fuzzy logic, neural computing, and evolutionary computation.