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Disciplina	006.3/7
Soggetti	Optical data processing Artificial intelligence Pattern recognition Algorithms Bioinformatics Computational biology Control engineering Robotics Mechatronics Image Processing and Computer Vision Artificial Intelligence Pattern Recognition Algorithm Analysis and Problem Complexity Computer Appl. in Life Sciences Control, Robotics, Mechatronics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Invited Paper (1) -- CBF: A New Framework for Object Categorization in Cortex -- Invited Paper (2) -- The Perception of Spatial Layout in a Virtual World -- Segmentation, Detection and Object Recognition -- Towards a Computational Model for Object Recognition in IT Cortex -- Straight Line Detection as an Optimization Problem: An Approach

Motivated by the Jumping Spider Visual System -- Factorial Code Representation of Faces for Recognition -- Distinctive Features Should Be Learned -- Moving Object Segmentation Based on Human Visual Sensitivity -- Invited Paper (3) -- Object Classification Using a Fragment-Based Representation -- Computational Model -- Confrontation of Retinal Adaptation Model with Key Features of Psychophysical Gain Behavior Dynamics -- Polarization-Based Orientation in a Natural Environment -- Computation Model of Eye Movement in Reading Using Foveated Vision -- New Eyes for Shape and Motion Estimation -- Top-Down Attention Control at Feature Space for Robust Pattern Recognition -- A Model for Visual Camouflage Breaking -- Active and Attentive Vision -- Development of a Biologically Inspired Real-Time Visual Attention System -- Real-Time Visual Tracking Insensitive to Three-Dimensional Rotation of Objects -- Heading Perception and Moving Objects -- Dynamic Vergence Using Disparity Flux -- Invited Paper (4) -- Computing in Cortical Columns: curve inference and stereo correspondence -- Invited Paper (5) -- Active Vision from Multiple Cues -- Posters -- An Efficient Data Structure for Feature Extraction in a Foveated Environment -- Parallel Trellis Based Stereo Matching Using Constraints -- Unsupervised Learning of Biologically Plausible Object Recognition Strategies -- Structured Kalman Filter for Tracking Partially Occluded Moving Objects -- Face Recognition under Varying Views -- Time Delay Effects on Dynamic Patterns in a Coupled Neural Model -- Pose-Independent Object Representation by 2-D Views -- An Image Enhancement Technique Based on Wavelets -- Front-End Vision: A Multiscale Geometry Engine -- Face Reconstruction Using a Small Set of Feature Points -- Modeling Character Superiority Effect in Korean Characters by Using IAM -- Wavelet-Based Stereo Vision -- A Neural Network Model for Long-Range Contour Diffusion by Visual Cortex -- Automatic Generation of Photo-Realistic Mosaic Image -- The Effect of Color Differences on the Detection of the Target in Visual Search -- A Color-Triangle-Based Approach to the Detection of Human Face -- Multiple People Tracking Using an Appearance Model Based on Temporal Color -- Face and Facial Landmarks Location Based on Log-Polar Mapping -- Biology-Inspired Early Vision System for a Spike Processing Neurocomputer -- A New Line Segment Grouping Method for Finding Globally Optimal Line Segments -- A Biologically-Motivated Approach to Image Representation and Its Application to Neuromorphology -- A Fast Circular Edge Detector for the Iris Region Segmentation -- Face Recognition Using Foveal Vision -- Fast Distance Computation with a Stereo Head-Eye System -- Bio-inspired Texture Segmentation Architectures -- 3D Facial Feature Extraction and Global Motion Recovery Using Multi-modal Information -- Evaluation of Adaptive NN-RBF Classifier Using Gaussian Mixture Density Estimates -- Scene Segmentation by Chaotic Synchronization and Desynchronization -- Electronic Circuit Model of Color Sensitive Retinal Cell Network -- The Role of Natural Image Statistics in Biological Motion Estimation -- Enhanced Fisherfaces for Robust Face Recognition -- Invited Paper (6) -- A Humanoid Vision System for Versatile Interaction -- ICA and Space-Variant Imaging -- The Spectral Independent Components of Natural Scenes -- Topographic ICA as a Model of Natural Image Statistics -- Independent Component Analysis of Face Images -- Orientation Contrast Detection in Space-Variant Images -- Multiple Object Tracking in Multiresolution Image Sequences -- A Geometric Model for Cortical Magnification -- Neural Networks and Applications -- Tangent Fields from Population Coding -- Efficient Search Technique for Hand Gesture Tracking in Three Dimensions -- Robust,

Real-Time Motion Estimation from Long Image Sequences Using Kalman Filtering -- T-CombNET - A Neural Network Dedicated to Hand Gesture Recognition -- Invited Paper (7) -- Active and Adaptive Vision: Neural Network Models -- Invited Paper (8) -- Temporal Structure in the Input to Vision Can Promote Spatial Grouping.

Sommario/riassunto

It is our great pleasure and honor to organize the First IEEE Computer Society International Workshop on Biologically Motivated Computer Vision (BMCV 2000). The workshop BMCV 2000 aims to facilitate debates on biologically motivated vision systems and to provide an opportunity for researchers in the area of vision to see and share the latest developments in state-of-the-art technology. The rapid progress being made in the field of computer vision has had a tremendous impact on the modeling and implementation of biologically motivated computer vision. A multitude of new advances and findings in the domain of computer vision will be presented at this workshop. By December 1999 a total of 90 full papers had been submitted from 28 countries. To ensure the high quality of workshop and proceedings, the program committee selected and accepted 56 of them after a thorough review process. Of these papers 25 will be presented in 5 oral sessions and 31 in a poster session. The papers span a variety of topics in computer vision from computational theories to their implementation. In addition to these excellent presentations, there will be eight invited lectures by distinguished scientists on "hot" topics. We must add that the program committee and the reviewers did an excellent job within a tight schedule.
