

1. Record Nr.	UNISA996466195803316
Titolo	Biologically Motivated Computer Vision [[electronic resource]] : Second International Workshop, BMCV 2002, Tübingen, Germany, November 22-24, 2002, Proceedings / / edited by Heinrich H. Bülthoff, Seong-Whan Lee, Tomaso Poggio, Christian Wallraven
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2002
ISBN	3-540-36181-2
Edizione	[1st ed. 2002.]
Descrizione fisica	1 online resource (XIV, 666 p.)
Collana	Lecture Notes in Computer Science, , 0302-9743 ; ; 2525
Disciplina	006.37
Soggetti	Optical data processing Algorithms Artificial intelligence Computer graphics Pattern recognition Bioinformatics Image Processing and Computer Vision Algorithm Analysis and Problem Complexity Artificial Intelligence Computer Graphics Pattern Recognition
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Neurons and Features -- Ultra-Rapid Scene Categorization with a Wave of Spikes -- A Biologically Motivated Scheme for Robust Junction Detection -- Iterative Tuning of Simple Cells for Contrast Invariant Edge Enhancement -- How the Spatial Filters of Area V1 Can Be Used for a Nearly Ideal Edge Detection -- Improved Contour Detection by Non-classical Receptive Field Inhibition -- Contour Detection by Synchronization of Integrate-and-Fire Neurons -- Reading Speed and Superiority of Right Visual Field on Foveated Vision -- A Model of Contour Integration in Early Visual Cortex -- Computational Cortical

Cell Models for Continuity and Texture -- A Neural Model of Human
 Texture Processing: Texture Segmentation vs. Visual Search --
 Unsupervised Image Segmentation Using a Colony of Cooperating Ants
 -- Image Reconstruction from Gabor Magnitudes -- A Binocular Stereo
 Algorithm for Log-Polar Foveated Systems -- Rotation-Invariant Optical
 Flow by Gaze-Depended Retino-Cortical Mapping -- An Analysis of the
 Motion Signal Distributions Emerging from Locomotion through a
 Natural Environment -- Motion -- Prototypes of Biological Movements
 in Brains and Machines -- Insect-Inspired Estimation of Self-Motion --
 Tracking through Optical Snow -- On Computing Visual Flows with
 Boundaries: The Case of Shading and Edges -- Biological Motion of
 Speech -- Mid-Level Vision -- Object Perception: Generative Image
 Models and Bayesian Inference -- The Role of Propagation and Medial
 Geometry in Human Vision -- Ecological Statistics of Contour Grouping
 -- Statistics of Second Order Multi-modal Feature Events and Their
 Exploitation in Biological and Artificial Visual Systems -- Recognition -
 From Scenes to Neurons -- Qualitative Representations for Recognition
 -- Scene-Centered Description from Spatial Envelope Properties --
 Visual Categorization: How the Monkey Brain Does It -- A New
 Approach towards Vision Suggested by Biologically Realistic Neural
 Microcircuit Models -- Interpreting LOC Cell Responses -- Neural
 Mechanisms of Visual Flow Integration and Segregation —Insights from
 the Pinna-Brelsta. Illusion and Variations of It -- Reconstruction of
 Subjective Surfaces from Occlusion Cues -- Extraction of Object
 Representations from Stereo Image Sequences Utilizing Statistical and
 Deterministic Regularities in Visual Data -- A Method of Extracting
 Objects of Interest with Possible Broad Application in Computer Vision
 -- Medical Ultrasound Image Similarity Measurement by Human Visual
 System (HVS) Modelling -- Seeing People in the Dark: Face Recognition
 in Infrared Images -- Modeling Insect Compound Eyes: Space-Variant
 Spherical Vision -- Facial and Eye Gaze Detection -- 1-Click Learning
 of Object Models for Recognition -- On the Role of Object-Specific
 Features for Real World Object Recognition in Biological Vision --
 Object Detection in Natural Scenes by Feedback -- Stochastic Guided
 Search Model for Search Asymmetries in Visual Search Tasks --
 Biologically Inspired Saliency Map Model for Bottom-up Visual Attention
 -- Hierarchical Selectivity for Object-Based Visual Attention --
 Attention -- Attending to Motion: Localizing and Classifying Motion
 Patterns in Image Sequences -- A Goal Oriented Attention Guidance
 Model -- Visual Attention Using Game Theory -- Attentional Selection
 for Object Recognition — A Gentle Way -- Audio-Oculomotor
 Transformation -- Gender Classification of Human Faces -- Face
 Reconstruction from Partial Information Based on a Morphable Face
 Model -- Dynamics of Face Categorization -- Recognizing Expressions
 by Direct Estimation of the Parameters of a Pixel Morphable Model --
 Modeling of Movement Sequences Based on Hierarchical Spatial-
 Temporal Correspondence of Movement Primitives -- Automatic
 Synthesis of Sequences of Human Movements by Linear Combination of
 Learned Example Patterns -- An Adaptive Hierarchical Model of the
 Ventral Visual Pathway Implemented on a Mobile Robot -- A New
 Robotics Platform for Neuromorphic Vision: Beobots -- Learning to Act
 on Objects -- Egocentric Direction and the Visual Guidance of Robot
 Locomotion Background, Theory and Implementation -- Evolving
 Vision-Based Flying Robots -- Object Detection and Classification for
 Outdoor Walking Guidance System -- Understanding Human Behaviors
 Based on Eye-Head-Hand Coordination -- Vision-Based Homing with a
 Panoramic Stereo Sensor -- Cognitive Vision -- Unsupervised Learning
 of Visual Structure -- Role of Featural and Configural Information in

Sommario/riassunto

This book constitutes the refereed proceedings of the Second International Workshop on Biologically Motivated Computer Vision, BMCV 2002, held in Tübingen, Germany, in November 2002. The 22 revised full papers and 37 revised short papers presented together with 6 invited papers were carefully reviewed and selected from 97 submissions. The papers are organized in topical sections on neurons and features, motion, mid-level vision, recognition - from scenes to neurons, attention, robotics, and cognitive vision.
