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Titolo	Energy Minimization Methods in Computer Vision and Pattern Recognition : 7th International Conference, EMMCVPR 2009, Bonn, Germany, August 24-27, 2009, Proceedings / / edited by Daniel Cremers, Yuri Boykov, Andrew Blake, Frank R. Schmidt
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Descrizione fisica	1 online resource (X, 494 p.)
Collana	Image Processing, Computer Vision, Pattern Recognition, and Graphics, , 3004-9954 ; ; 5681
Altri autori (Persone)	CremersDaniel
Disciplina	006.6 006.37
Soggetti	Computer vision Pattern recognition systems Computers Algorithms Image processing - Digital techniques Data mining Computer Vision Automated Pattern Recognition Hardware Performance and Reliability Computer Imaging, Vision, Pattern Recognition and Graphics Data Mining and Knowledge Discovery
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Discrete Optimization and Markov Random Fields -- Multi-label Moves for MRFs with Truncated Convex Priors -- Detection and Segmentation of Independently Moving Objects from Dense Scene Flow -- Efficient Global Minimization for the Multiphase Chan-Vese Model of Image Segmentation -- Bipartite Graph Matching Computation on GPU -- Pose-Invariant Face Matching Using MRF Energy Minimization Framework -- Parallel Hidden Hierarchical Fields for Multi-scale Reconstruction -- General Search Algorithms for Energy Minimization

Problems -- Partial Differential Equations -- Complex Diffusion on Scalar and Vector Valued Image Graphs -- A PDE Approach to Coupled Super-Resolution with Non-parametric Motion -- On a Decomposition Model for Optical Flow -- A Schrödinger Wave Equation Approach to the Eikonal Equation: Application to Image Analysis -- Computing the Local Continuity Order of Optical Flow Using Fractional Variational Method -- A Local Normal-Based Region Term for Active Contours -- Segmentation and Tracking -- Hierarchical Pairwise Segmentation Using Dominant Sets and Anisotropic Diffusion Kernels -- Tracking as Segmentation of Spatial-Temporal Volumes by Anisotropic Weighted TV -- Complementary Optic Flow -- Parameter Estimation for Marked Point Processes. Application to Object Extraction from Remote Sensing Images -- Three Dimensional Monocular Human Motion Analysis in End-Effector Space -- Robust Segmentation by Cutting across a Stack of Gamma Transformed Images -- Shape Optimization and Registration -- Integrating the Normal Field of a Surface in the Presence of Discontinuities -- Intrinsic Second-Order Geometric Optimization for Robust Point Set Registration without Correspondence -- Geodesics in Shape Space via Variational Time Discretization -- Image Registration under Varying Illumination:Hyper-Demons Algorithm -- Hierarchical Vibrations: A Structural Decomposition Approach for Image Analysis -- Inpainting and Image Denoising -- Exemplar-Based Interpolation of Sparsely Sampled Images -- A Variational Framework for Non-local Image Inpainting -- Image Filtering Driven by Level Curves -- Color Image Restoration Using Nonlocal Mumford-Shah Regularizers -- Reconstructing Optical Flow Fields by Motion Inpainting -- Color and Texture -- Color Image Segmentation in a Quaternion Framework -- Quaternion-Based Color Image Smoothing Using a Spatially Varying Kernel -- Locally Parallel Textures Modeling with Adapted Hilbert Spaces -- Global Optimal Multiple Object Detection Using the Fusion of Shape and Color Information -- Statistics and Learning -- Human Age Estimation by Metric Learning for Regression Problems -- Clustering-Based Construction of Hidden Markov Models for Generative Kernels -- Boundaries as Contours of Optimal Appearance and Area of Support.

Sommario/riassunto

Overthelastdecades,energyminimizationmethods havebecomeanestablished paradigm to resolve a variety of challenges in the ?elds of computer vision and pattern recognition. While traditional approaches to computer vision were often based on a heuristic sequence of processing steps and merely allowed very l- ited theoretical understanding of the respective methods, most state-of-the-art methods are nowadays based on the concept of computing solutions to a given problem by minimizing respective energies. This volume contains the papers presented at the 7th International Conf- ence on Energy Minimization Methods in Computer Vision and Pattern Rec- nition (EMMCVPR 2009), held at the University of Bonn, Germany, August 24-28, 2009. These papers demonstrate that energy minimization methods have become a mature ?eld of research spanning a broad range of areas from discrete graph theoretic approaches and Markov random ?elds to variational methods and partial di'erential equations. Application areas include image segmentation and tracking, shape optimization and registration, inpainting and image deno- ing, color and texture modeling, statistics and learning. Overall, we received 75 high-quality double-blind submissions. Based on the reviewer recommendations, 36paperswereselectedforpublication, 18asoraland18asposterpresentations. Both oral and poster papers were attributed the same number of pages in the conference proceedings. Furthermore, we were delighted that three leading experts from the ? elds of computer vision and energy minimization, namely, Richard

Hartley (C- berra, Australia), Joachim Weickert (Saarbruc ¨ ken, Germany) and Guillermo Sapiro(Minneapolis,USA) agreedtofurtherenrichtheconferencewithinspiring keynote lectures.