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Titolo	Scale Space and Variational Methods in Computer Vision [[electronic resource]] : Second International Conference, SSVM 2009, Voss, Norway, June 1-5, 2009. Proceedings / / edited by Xue-Cheng Tai, Knut Morken, Marius Lysaker, Knut-Andreas Lie
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Collana	Image Processing, Computer Vision, Pattern Recognition, and Graphics ; ; 5567
Disciplina	006.37
Soggetti	Optical data processing Computer programming Data mining Computer graphics Pattern recognition Image Processing and Computer Vision Programming Techniques Data Mining and Knowledge Discovery Computer Graphics Computer Imaging, Vision, Pattern Recognition and Graphics Pattern Recognition
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Livello bibliografico	Monografia
Note generali	International conference proceedings.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Segmentation and Detection -- Graph Cut Optimization for the Piecewise Constant Level Set Method Applied to Multiphase Image Segmentation -- Tubular Anisotropy Segmentation -- An Unconstrained Multiphase Thresholding Approach for Image Segmentation -- Extraction of the Intercellular Skeleton from 2D Images of Embryogenesis Using Eikonal Equation and Advective

Subjective Surface Method -- On Level-Set Type Methods for Recovering Piecewise Constant Solutions of Ill-Posed Problems -- The Nonlinear Tensor Diffusion in Segmentation of Meaningful Biological Structures from Image Sequences of Zebrafish Embryogenesis -- Composed Segmentation of Tubular Structures by an Anisotropic PDE Model -- Extrapolation of Vector Fields Using the Infinity Laplacian and with Applications to Image Segmentation -- A Schrödinger Equation for the Fast Computation of Approximate Euclidean Distance Functions -- Semi-supervised Segmentation Based on Non-local Continuous Min-Cut -- Momentum Based Optimization Methods for Level Set Segmentation -- Optimization of Divergences within the Exponential Family for Image Segmentation -- Convex Multi-class Image Labeling by Simplex-Constrained Total Variation -- Geodesically Linked Active Contours: Evolution Strategy Based on Minimal Paths -- Validation of Watershed Regions by Scale-Space Statistics -- Adaptation of Eikonal Equation over Weighted Graph -- A Variational Model for Interactive Shape Prior Segmentation and Real-Time Tracking -- Image Enhancement and Reconstruction -- A Nonlinear Probabilistic Curvature Motion Filter for Positron Emission Tomography Images -- Finsler Geometry on Higher Order Tensor Fields and Applications to High Angular Resolution Diffusion Imaging -- Bregman-EM-TV Methods with Application to Optical Nanoscopy -- PDE-Driven Adaptive Morphology for Matrix Fields -- On Semi-implicit Splitting Schemes for the Beltrami Color Flow -- Multi-scale Total Variation with Automated Regularization Parameter Selection for Color Image Restoration -- Multiplicative Noise Cleaning via a Variational Method Involving Curvelet Coefficients -- Projected Gradient Based Color Image Decomposition -- A Dual Formulation of the TV-Stokes Algorithm for Image Denoising -- Anisotropic Regularization for Inverse Problems with Application to the Wiener Filter with Gaussian and Impulse Noise -- Locally Adaptive Total Variation Regularization -- Basic Image Features (BIFs) Arising from Approximate Symmetry Type -- An Anisotropic Fourth-Order Partial Differential Equation for Noise Removal -- Enhancement of Blurred and Noisy Images Based on an Original Variant of the Total Variation -- Coarse-to-Fine Image Reconstruction Based on Weighted Differential Features and Background Gauge Fields -- Edge-Enhanced Image Reconstruction Using (TV) Total Variation and Bregman Refinement -- Nonlocal Variational Image Deblurring Models in the Presence of Gaussian or Impulse Noise -- A Geometric PDE for Interpolation of M-Channel Data -- An Edge-Preserving Multilevel Method for Deblurring, Denoising, and Segmentation -- Fast Dejittering for Digital Video Frames -- Sparsity Regularization for Radon Measures -- Split Bregman Algorithm, Douglas-Rachford Splitting and Frame Shrinkage -- Anisotropic Smoothing Using Double Orientations -- Image Denoising Using TV-Stokes Equation with an Orientation-Matching Minimization -- Augmented Lagrangian Method, Dual Methods and Split Bregman Iteration for ROF Model -- The Convergence of a Central-Difference Discretization of Rudin-Osher-Fatemi Model for Image Denoising -- Theoretical Foundations for Discrete Forward-and-Backward Diffusion Filtering -- L 0-Norm and Total Variation for Wavelet Inpainting -- Total-Variation Based Piecewise Affine Regularization -- Image Denoising by Harmonic Mean Curvature Flow -- Motion Analysis, Optical Flow, Registration and Tracking -- Tracking Closed Curves with Non-linear Stochastic Filters -- A Multi-scale Feature Based Optic Flow Method for 3D Cardiac Motion Estimation -- A Combined Segmentation and Registration Framework with a Nonlinear Elasticity Smoother -- A Scale-Space Approach to Landmark Constrained Image Registration --

A Variational Approach for Volume-to-Slice Registration -- Hyperbolic Numerics for Variational Approaches to Correspondence Problems -- Surfaces and Shapes -- From a Single Point to a Surface Patch by Growing Minimal Paths -- Optimization of Convex Shapes: An Approach to Crystal Shape Identification -- An Implicit Method for Interpolating Two Digital Closed Curves on Parallel Planes -- Pose Invariant Shape Prior Segmentation Using Continuous Cuts and Gradient Descent on Lie Groups -- A Non-local Approach to Shape from Ambient Shading -- An Elasticity Approach to Principal Modes of Shape Variation -- Pre-image as Karcher Mean Using Diffusion Maps: Application to Shape and Image Denoising -- Fast Shape from Shading for Phong-Type Surfaces -- Generic Scene Recovery Using Multiple Images -- Scale Space and Feature Extraction -- Highly Accurate PDE-Based Morphology for General Structuring Elements -- Computational Geometry-Based Scale-Space and Modal Image Decomposition -- Highlight on a Feature Extracted at Fine Scales: The Pointwise Lipschitz Regularity -- Line Enhancement and Completion via Linear Left Invariant Scale Spaces on SE(2) -- Spatio-Featural Scale-Space -- Scale Spaces on the 3D Euclidean Motion Group for Enhancement of HARDI Data -- On the Rate of Structural Change in Scale Spaces -- Transitions of a Multi-scale Image Hierarchy Tree -- Local Scale Measure for Remote Sensing Images.

Sommario/riassunto

This book constitutes the refereed proceedings of the Second International Conference on Scale Space Methods and Variational Methods in Computer Vision, SSVM 2009, emanated from the joint edition of the 5th International Workshop on Variational, Geometric and Level Set Methods in Computer Vision, VLSM 2009 and the 7th International Conference on Scale Space and PDE Methods in Computer Vision, Scale-Space 2009, held in Voss, Norway in June 2009. The 71 revised full papers presented were carefully reviewed and selected numerous submissions. The papers are organized in topical sections on segmentation and detection; image enhancement and reconstruction; motion analysis, optical flow, registration and tracking; surfaces and shapes; scale space and feature extraction.