

Table of Contents

Tracking

Multimodal Shape Tracking with Point Distribution Models	1
<i>J. Giebel, D.M. Gavrilu, Germany</i>	
Real-Time Tracking of Complex Objects Using Dynamic Interpretation Tree	9
<i>M. Brandner, A. Pinz, Austria</i>	

Posters I

On Optimal Camera Parameter Selection in Kalman Filter Based Object Tracking	17
<i>J. Denzler, M. Zobel, H. Niemann, Germany</i>	
Video-Based Handsign Recognition for Intuitive Human-Computer-Interaction	26
<i>S. Funck, Germany</i>	
Quality Enhancement of Reconstructed 3D Models Using Coplanarity and Constraints	34
<i>H. Cantzler, R.B. Fisher, UK; M. Devy, France</i>	
Multispectral Texture Analysis Using Interplane Sum- and Difference-Histograms	42
<i>C. Münzenmayer, H. Volk, C. Küblbeck, K. Spinnler, T. Wittenberg, Germany</i>	
Human Body Reconstruction from Image Sequences	50
<i>F. Remondino, Switzerland</i>	
A Knowledge-Based System for Context Dependent Evaluation of Remote Sensing Data	58
<i>J. Bückner, M. Pahl, O. Stahlhut, C.-E. Liedtke, Germany</i>	
Empirically Convergent Adaptive Estimation of Grayvalue Structure Tensors	66
<i>M. Middendorf, H.-H. Nagel, Germany</i>	
Real Time Fusion of Motion and Stereo Using Flow/Depth Constraint for Fast Obstacle Detection	75
<i>S. Heinrich, Germany</i>	

Polygon Partition into Stable Regions	83
<i>J. Rocha, Spain</i>	
Fast ICP Algorithms for Shape Registration	91
<i>T. Jost, H. Hügli, Switzerland</i>	
Appearance Based Generic Object Modeling and Recognition Using Probabilistic Principal Component Analysis	100
<i>C. Drexler, F. Mattern, J. Denzler, Germany</i>	
Skin Patch Detection in Real-World Images	109
<i>H. Kruppa, M.A. Bauer, B. Schiele, Switzerland</i>	
Logarithmic Tapering Graph Pyramid	117
<i>Y. Haxhimusa, Austria; R. Glantz, Italy; M. Saib, G. Langs, W.G. Kropatsch, Austria</i>	
A New and Efficient Algorithm for Detecting the Corners in Digital Images	125
<i>E. Sojka, Czech Republik</i>	
Fast Implicit Active Contour Models	133
<i>G. Kühne, J. Weickert, M. Beier, W. Effelsberg, Germany</i>	
Unsupervised Image Partitioning with Semidefinite Programming	141
<i>J. Keuchel, C. Schnörr, C. Schellewald, D. Cremers, Germany</i>	
The Application of Genetic Algorithms in Structural Seismic Image Interpretation	150
<i>M. Aurnhammer, K. Tönnies, Germany</i>	
Unsupervised Image Clustering Using the Information Bottleneck Method	158
<i>J. Goldberger, H. Greenspan, S. Gordon, Israel</i>	
Efficient Modification of the Central Weighted Vector Median Filter	166
<i>B. Smolka, Poland</i>	
Fast Recovery of Piled Deformable Objects Using Superquadrics	174
<i>D. Katsoulas, Germany; A. Jaklič, Slovenia</i>	
Analysis of Amperometric Biosensor Curves Using Hidden-Markov-Modells	182
<i>J. Weitzenberg, S. Posch, M. Rost, Germany</i>	

Segmentation

Unifying Registration and Segmentation for Multi-sensor Images	190
<i>B. Flach, E. Kask, D. Schlesinger, Germany; A. Skulish, Ukraine</i>	

Relations between Soft Wavelet Shrinkage and Total Variation Denoising	198
<i>G. Steidl, J. Weickert, Germany</i>	

Data Resampling for Path Based Clustering	206
<i>B. Fischer, J.M. Buhmann, Germany</i>	

Statistical Image Sequence Processing for Temporal Change Detection	215
<i>M. Brocke, Germany</i>	

Invited Talk

Single-View Metrology: Algorithms and Applications	224
<i>A. Criminisi, USA</i>	

3D Shape

Shape from Single Stripe Pattern Illumination	240
<i>S. Winkelbach, F.M. Wahl, Germany</i>	

Disparity from Monogenic Phase	248
<i>M. Felsberg, Sweden</i>	

A Probabilistic Approach to Building Roof Reconstruction Using Semantic Labelling	257
<i>S. Scholze, Switzerland; T. Moons, L. Van Gool, Belgium</i>	

Adaptive Pose Estimation for Different Corresponding Entities	265
<i>B. Rosenhahn, G. Sommer, Germany</i>	

Posters II

Properties of a Three-Dimensional Island Hierarchy for Segmentation of 3D Images with the Color Structure Code	274
<i>P. Sturm, L. Priese, Germany</i>	

A Real Time Implementation of the Saliency-Based Model of Visual Attention on a SIMD Architecture	282
<i>N. Ouerhani, H. Hügli, P.-Y. Burgi, P.-F. Ruedi, Switzerland</i>	

Designing 3-D Nonlinear Diffusion Filters for High Performance Cluster Computing	290
<i>A. Bruhn, T. Jakob, M. Fischer, T. Kohlberger, J. Weickert, U. Brünig, C. Schnörr, Germany</i>	

Hierarchical Primitives Based Contour Matching	298
<i>X. Zhang, H. Burkhardt, Germany</i>	

Application of the Tensor Voting Technique for Perceptual Grouping to Grey-Level Images	306
<i>A. Massad, M. Babós, B. Mertsching, Germany</i>	
Combined Forward and Backward Anisotropic Diffusion Filtering of Color Images	314
<i>B. Smolka, Poland</i>	
Reinforcement Learning to Drive a Car by Pattern Matching	322
<i>M. Krödel, K.-D. Kuhnert</i>	
Robust Point Correspondence for Image Registration Using Optimization with Extremal Dynamics	330
<i>S. Meshoul, M. Batouche, Algeria</i>	
Extending Active Shape Models to Incorporate a-priori Knowledge about Structural Variability	338
<i>S. Al-Zubi, K. Tönnies, Germany</i>	
A New Approach for Defect Detection in X-ray CT Images	345
<i>H. Eisele, F.A. Hamprecht, Germany</i>	
Object Tracking with an Adaptive Color-Based Particle Filter	353
<i>K. Nummiaro, Belgium; E. Koller-Meier, Switzerland; L. Van Gool, Belgium/Switzerland</i>	
Analysis of Object Interactions in Dynamic Scenes	361
<i>B. Möller, S. Posch, Germany</i>	
Automatic Monocular 3D-Reconstruction of Indoor Environments Using Mobile Vehicles	370
<i>C. Bräuer-Burchardt, Germany</i>	
Dense Parameter Fields from Total Least Squares	379
<i>H. Spies, C. S. Garbe, Germany</i>	
A Factorization-Based Method for Projective Reconstruction with Minimization of 2-D Reprojection Errors	387
<i>W.K. Tang, Y.S. Hung, Hong Kong</i>	
Head Detection and Localization from Sparse 3D Data	395
<i>M. Clabian, H. Rötzer, H. Bischof, W. Kropatsch, Austria</i>	
Segmentation of the Date in Entries of Historical Church Registers	403
<i>M. Feldbach, K.D. Tönnies, Germany</i>	
Approach to Object Recognition by Learning Mobile Robots	411
<i>M.-C. Nguyen, B. Radig, Germany</i>	

Ultrasonic Image Formation Using Wide Angle Sensor Arrays and Cross-Echo Evaluation	421
<i>A. Di Miro, B. Wirnitzer, C. Zott, R. Klinnert, Germany</i>	

Segmenting Microorganisms in Multi-modal Volumetric Datasets Using a Modified Watershed Transform	429
<i>S. Bergner, R. Pohle, S. Al-Zubi, K. Tönnies, A. Eitner, T.R. Neu, Germany</i>	

Bayesian Kernel Tracking	438
<i>D. Comaniciu, USA</i>	

Optical Flow

Nonlinear Matrix Diffusion for Optic Flow Estimation	446
<i>T. Brox, J. Weickert, Germany</i>	

Combining the Advantages of Local and Global Optic Flow Methods	454
<i>A. Bruhn, J. Weickert, C. Schnörr, Germany</i>	

Mixed OLS-TLS for the Estimation of Dynamic Processes with a Linear Source Term	463
<i>C.S. Garbe, H. Spies, B. Jähne, Germany</i>	

Motion Competition: Variational Integration of Motion Segmentation and Shape Regularization	472
<i>D. Cremers, C. Schnörr, Germany</i>	

Recognition

Fisher Light-Fields for Face Recognition across Pose and Illumination	481
<i>R. Gross, I. Matthews, S. Baker, USA</i>	

A Multimodal System for Object Learning	490
<i>F. Lömker, G. Sagerer, Germany</i>	

Maximum Entropy and Gaussian Models for Image Object Recognition ...	498
<i>D. Keysers, F.J. Och, H. Ney, Germany</i>	

Evaluation of Confidence Measures for On-Line Handwriting Recognition .	507
<i>A. Brakensiek, A. Kosmala, G. Rigoll, Germany</i>	

Posters III

ViRoom – Low Cost Synchronized Multicamera System and Its Self-calibration	515
<i>T. Svoboda, H. Hug, L. Van Gool, Switzerland</i>	

Real-Time Tracking Using Wavelet Representation	523
<i>T. Chateau, F. Jurie, M. Dhome, X. Clady, France</i>	

Hands Tracking from Frontal View
for Vision-Based Gesture Recognition 531
J. Zieren, N. Unger, S. Akyol, Germany

Automatic Annotation of Tennis Video Sequences 540
C. Calvo, A. Micarelli, E. Sangineto, Italy

Fitting of Parametric Space Curves and Surfaces
by Using the Geometric Error Measure 548
S.J. Ahn, W. Rauh, E. Westkämper, Germany

Efficient, Active 3D Acquisition, Based on a Pattern-Specific Snake 557
T.P. Koninckx, L. Van Gool, Belgium

Appearance-Based 3-D Face Recognition from Video 566
V. Krüger, R. Gross, S. Baker, USA

Direct Method for Motion Estimation:
An Alternative to Decomposition of Planar Transformation Matrices 575
N. Navab, Y. Genc, A. Khamene, M. Mitschke, USA

A Feature-Driven Attention Module for an Active Vision System 583
K. Cheoi, Y. Lee, South Korea

Analytic Reduction of the Kruppa Equations 591
N. Canterakis, Germany

Query-Dependent Performance Optimization
for Vocabulary-Supported Image Retrieval 600
J. Vogel, B. Schiele, Switzerland

Spherical Images

Multiscale Image Processing on the Sphere 609
T. Bülow, USA

Polydioptric Cameras: New Eyes for Structure from Motion 618
J. Neumann, C. Fermüller, Y. Aloimonos, USA

Author Index 627

Pattern Recognition

24th DAGM Symposium, Zurich, Switzerland, September

16-18, 2002, Proceedings

Van Gool, L. (Ed.)

2002, XVI, 628 p., Softcover

ISBN: 978-3-540-44209-7