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Nota di contenuto	Color -- Spectro-Spatial Gradients for Color-Based Object Recognition and Indexing -- MCEBC — A Blob Coloring Algorithm for Content-Based Image Retrieval System -- EigenHistograms: Using Low Dimensional Models of Color Distribution for Real Time Object Recognition -- Image Processing -- A Novel Approach to the 2D Analytic Signal -- Shift Detection by Restoration -- Edge Preserving Probabilistic Smoothing Algorithm -- Image Databases -- Evaluating the Complexity of Databases for Person Identification and Verification -- Effcient Shape Retrieval by Parts -- Curvature Scale Space for Shape Similarity Retrieval under Affine Transforms -- Image Compression and Watermarking -- FORI-CSDR - A New Approach for Context Sensitive Image Data Reduction -- Image Compression by Approximated 2D Karhunen Loeve Transform -- A New Watermarking Method Using High Frequency Components to Guide the Insertion Process in the Spatial Domain -- Invited Lecture -- Adventurous Tourism for Couch Potatoes -- Poster Session I -- Linear vs. Quadratic Optimization Algorithms for Bias Correction of Left Ventricle Chamber Boundaries in Low Contrast Projection Ventriculograms Produced from Xray Cardiac Catheterization Procedure -- Registration and Composition of Stacks of Serial Optical Slices Captured by a Confocal Microscope -- Tracking Articulators in X-

ray Movies of the Vocal Tract -- Modeling Morphological Changes During Contraction of Muscle Fibres by Active Contours -- Fuzzy Similarity Relations for Chromosome Classification and Identification -- Enhanced Neural Networks and Medical Imaging -- Learning Behavior Using Mult iresolution Recurrent Neural Network -- Automatic Classification System of Marble Slabs in Production Line According to Texture and Color Using Artificial Neural Networks -- Polygonal Approximation Using Genetic Algorithms -- Computation of Symmetry Measures for Polygonal Shapes -- An Interpolative Scheme for Fractal Image Compression in the Wavelet Domain -- On Convergence of Discrete and Selective Fractal Operators -- Optimized Fast Algorithms for the Quaternionic Fourier Transform -- Image Block Coding Based on New Algorithms of Short-Length DCT with Minimal Multiplicative Complexity -- Object Recognition with Representations Based on Sparsified Gabor Wavelets Used as Local Line Detectors -- Effective Implementation of Linear Discriminant Analysis for Face Recognition and Verification -- A Scale-Space Approach to Face Recognition from Profiles -- Pattern Recognition Combining De-noising and Linear Discriminant Analysis within a Real World Application -- Invariant Reference Points Methodology and Applications -- A New Framework of Invariant Fitting -- 3D Reconstruction of Volume Defects from Few X-Ray Images -- Geodesic Path Based Interpolation Using Level Sets Propagation -- Free-Form Surface Description in Multiple Scales: Extension to Incomplete Surfaces -- Complex Analysis for Reconstruction from Controlled Motion -- Estimating Consistent Motion from Three Views: An Alternative to Trifocal Analysis -- Using Rigid Constraints to Analyse Motion Parameters from Two Sets of 3D Corresponding Point Pattern -- An Automatic Registration Algorithm for Two Overlapping Range Images -- On Registering Front- and Backviews of Rotationally Symmetric Objects -- Registration of Range Images Based on Segmented Data -- Automatic Grid Fitting for Genetic Spot Array Images Containing Guide Spots -- Matching for Shape Defect Detection -- A Vision Driven Automatic Assembly Unit -- Scene Reconstruction from Images -- NIIRS and Objective Image Quality Measures -- Pyramidal Seeded Region Growing Algorithm and Its Use in Image Segmentation -- Multi-image Region Growing for Integrating Disparity Maps -- Contrast Enhancement of Gray Scale Images Based on the Random Walk Model -- Skeletonization on Projection Pictures -- Computing the Intrinsic Camera Parameters Using Pascal's Theorem -- Calibration Update Technique for a Zoom Lens -- Which Slightly Different View Is the Right One? -- Convex Layers: A New Tool for Recognition of Projectively Deformed Point Sets -- Measurement of Ski-Jump Distances by the Use of Fuzzy Pattern Comparator -- 2D Motion Analysis by Fuzzy Pattern Comparator -- Image Retrieval System Based on Machine Learning and Using Color Features -- Face Parts Extraction Windows Based on Bilateral Symmetry of Gradient Direction -- Modelling Needle-Map Consistency with Novel Constraints -- Improved Orientation Estimation for Texture Planes Using Multiple Vanishing Points -- Relating Scene Depth to Image Ratios -- A Modular Vision Guided System for Tracking 3D Objects in Real-Time -- Real-Time Optical Edge and Corner Tracking at Subpixel Accuracy -- Panoramic Images -- Three-Dimensional Scene Navigation through Anaglyphic Panorama Visualization -- Zero Phase Representation of Panoramic Images for Image Based Localization -- Panoramic Eigenimages for Spatial Localisation -- Grouping -- Feature Grouping Based on Graphs and Neural Networks -- Frame-Relative Critical Point Sets in Image Analysis -- A Fast Raffic Sign Recognition Algorithm for Gray Value Images -- Image Rendering -- A Geometric Approach to

Light field Calibration -- Coding of Dynamic Texture on 3D Scenes -- Image Stitching — Comparisons and New Techniques -- Procrustes Alignment with the EM Algorithm -- Structural Constraints for Pose Clustering -- Subpixel Stereo Matching by Robust Estimation of Local Distortion Using Gabor Filters.

Sommario/riassunto

This volume presents the articles accepted for the 8th International Conference on Computer Analysis of Images and Patterns (CAIP'99), held in Ljubljana, Slovenia, 1{3 September 1999. The CAIP series of conferences started 14 years ago in Berlin. The series served initially as a forum for meetings between sci- tists from Western and Eastern-bloc countries. Political circumstances have changed dramatically since the inception of the conference and such contacts are fortunately no longer subject to abstrade. While CAIP conferences are still rooted in Central Europe, they now attract participants from all over the world. We received 120 submissions, which went through a thorough double blind review process by the program committee members who, had the option of - signing additional reviewers. The nal program consists of 47 oral and 27 poster presentations, with authors from 25 di erent countries. The proceedings also include 2 of the 5 invited lectures given at the conference. In the name of the steering committee we would like to thank the program committee members and the additional reviewers for their time and e orts. Our thanks also go to the authors for their cooperation and meeting of all deadlines.