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Soggetti	Optical data processing Signal processing Image processing Speech processing systems Pattern recognition Computer graphics Artificial intelligence Image Processing and Computer Vision Signal, Image and Speech Processing Pattern Recognition Computer Graphics Artificial Intelligence
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Challenges and opportunities for PR&CV research in year 2000 and beyond -- Multi-scale gradient magnitude watershed segmentation -- Segmentation of multispectral images of works of art through principal component analysis -- Multiscale edge detection via normal changes -- Extending adjacency to fuzzy sets for coping with imprecise image objects -- Adaptive selection of image classifiers -- Classification reliability and its use in multi-classifier systems -- Color linear model -- A computational approach to color illusions -- Improved textured images segmentation using an energy functional -- Contribution to the

colour segmentation by means of an algorithm which reduces the CCDs saturation problems -- Pyramid-based multi-sensor image data fusion with enhancement of textural features -- Texture analysis using pairwise interaction maps -- Estimation of the color image gradient with perceptual attributes -- Contour line extraction from color images of scanned maps -- Subjective analysis of edge detectors in color image processing -- Similarity measures for binary and gray level Markov Random Field textures -- A simple and effective edge detector -- Improvements to image magnification -- Refining surface curvature with relaxation labeling -- Dynamic scale-space theories -- Reconstructing digital sets from X-rays -- Pattern recognition from compressed labelled trees of fuzzy regions -- Optimality analysis of edge detection algorithms for range images -- Analysis situs and image processing -- Defining cost functions and profitability measures for digraphs associated with raster DEMs -- Using proximity and spatial homogeneity in neighbourhood-based classifiers -- Image segmentation by means of fuzzy entropy measure -- Efficient region segmentation through 'creep-and-merge' -- An automatic transformation from bimodal to pseudo-binary images -- A new deformable model for 3D image segmentation -- Evolutionary image segmentation -- Discontinuity adaptive MRF model for synthetic aperture radar image analysis -- Region growing Euclidean distance transforms -- COP: A new method for extracting edges and corners -- An integrated approach for segmentation and representation of range images -- Two-dimensional fractal segmentation of natural images -- Fast segmentation of range images -- Image compression based on Centipede Model -- Unsupervised texture segmentation using feature distributions -- Color based object recognition -- Color texture classification by wavelet energy correlation signatures -- Cross-media color matching using neural networks -- Object recognition and performance bounds -- Relating image warping to 3D geometrical deformations -- Using top-down and bottom-up analysis for a multi-scale skeleton hierarchy -- A new algorithm for 3D profilometry based on phase measurement -- Surface modeling and display from range and color data -- An improved active shape model: Handling occlusion and outliers -- Perspective matching using the EM algorithm -- Identifying human face profiles with semi-local integral invariants -- Adaptive fovea structures for space-variant sensors -- Structural characterisation of image processing operators -- Easy calibration of pan/tilt camera heads and online computation of the epipolar correspondences -- Integration of spatio-temporal information for motion detection by means of fuzzy reasoning -- Adaptive motion estimation and video vector quantization based on spatiotemporal non-linearities of human perception -- Integral based approach for determining motion vector fields -- A practical algorithm for structure and motion recovery from long sequence of images -- Object pose by affine iterations -- Robust motion estimation using chrominance information in colour image sequences -- Temporal prediction of video sequences using an image warping technique based on color segmentation -- Motion and intensity-based segmentation and its application to traffic monitoring -- A geometrically deformable contour model -- Non-visible deformations -- Two-step parameter-free elastic image registration with prescribed point displacements -- Learning for feature selection and shape detection -- Experiments on the decomposition of arbitrarily shaped binary morphological structuring elements -- Bézier modelling of cracks -- An adaptive deformable template for mouth boundary modeling -- A two-stage framework for polygon retrieval using Minimum Circular Error Bound --

Topology and shape preserving parallel thinning for 3D digital images — a new approach -- Convergence of model based shape from shading -- Quantitative assessment of two skeletonization algorithms adapted to rectangular grids -- An algorithm for the global solution of the shape-from-shading model -- A statistical classification method for hierarchical irregular objects -- Multi-level dynamic programming for axial motion stereo line matching -- Analysis of grey-level features for line segment stereo matching -- 3-D object positioning from monocular image brightnesses -- Camera calibration based on 3D-point-grid -- A geometric modeling tool for stereo-matching and reconstruction of a model of 3D-scene -- Estimating translation/deformation motion through phase correlation -- Robust fitting of 3D CAD models to video streams -- Experiments with a new area-based stereo algorithm -- Adaptive stereo matching in correlation scale-space -- Hierarchical depth mapping from multiple cameras -- Fast error-correcting graph isomorphism based on model precompilation -- Function-described graphs applied to 3D object representation -- Cooperative vision in a multi-agent architecture.

Sommario/riassunto

This book is part of the refereed 2-volume proceedings of the 9th International Conference on Image Analysis and Processing, ICIAP'97, held in Florence, Italy, September 1997. Both volumes together present several keynote contributions and 173 revised papers selected from over 300 submissions. The contributing authors (more than 400 in number) provide a wealth of new results in the areas of image analysis, pattern recognition and computer vision. Among the basic topics covered are image enhancement, image segmentation, image compression, motion analysis, object recognition, image understanding, and special hardware architectures and systems, etc. Among the application areas covered are biomedical imaging, character recognition, safety and surveillance, object identification, etc.
