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Titolo	Recent Issues in Pattern Analysis and Recognition [[electronic resource] /] / edited by Virginio Cantoni, Reiner Creutzburg, Stefano Levialdi, Gottfried Wolf
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Descrizione fisica	1 online resource (IX, 400 p.)
Collana	Lecture Notes in Computer Science, , 0302-9743 ; ; 399
Disciplina	006.4
Soggetti	Pattern recognition Signal processing Image processing Speech processing systems Optical data processing Computer graphics Pattern Recognition Signal, Image and Speech Processing Image Processing and Computer Vision Computer Graphics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	A fast algorithm to compress grey level images -- Image enhancement by path partitioning -- Boundary approximations in digital geometry -- Parallel computing of line-codings by use of a display processor system and the parallel determination of a discrete curvature -- Fast algorithm for computing fractal dimensions of image segments -- Integration of the cooley, rader and Winograd-Fourier algorithms for a faster computation of the DFT -- A fuzzy approach to cue detection and region merging for image segmentation -- A parallel algorithm for the visibility problem inside a simple polygon -- Parallel matrix multiplication on an array-logical processor -- Experiments on pyramidal segmentation -- An example of integrated circuit design based on silicon compilation: The SCPC1 (Silicon Compiler Pyramidal

Chip) -- Bit-level systolic arrays for digital contour smoothing -- Design of bit-level systolic convolvers for image processing -- Utilizing fixed-size systolic arrays for large computational problems -- Effective image processing using the special purpose processor GIPP -- Linear image operations on the A6472 image frocessing system by use of residue arithmetics -- Topologic and metric modelling of visual objects -- Data structures and parallel memory organization based on dyadic storage schemes -- Parallel access to rectangles -- Optimal parallel conflict-free access to extended binary trees -- Decomposing a solid object into elementary features -- Recognition of polyhedra by photometric stereo -- Volumetric and pictorial reconstruction of 3D objects from correspondences in moving 2D views -- Automated design of vision systems -- Adapting multi-grid-methods to the class of elliptic partial differential equation appearing in the estimation of displacement vector fields -- An adaptive method for natural scene analysis -- A structural method for handprinted character recognition -- Investigation on a structural solution of merged characters segmentation in OCR -- A spectral analysis-based signature verification system -- Detection of arcs in workpiece images -- Computer aided screening of subjects at risk for cervical neoplasia -- An intelligent system for automatic fire detection in forests -- Alternative feature selection procedures for particle classification by pattern recognition techniques -- Automated fabric inspection based on a structural texture analysis method -- A 20000-word speech recognizer of Italian.

Sommario/riassunto

This book offers readers a broad view of research in some Western and Eastern European countries on pattern and signal analysis, and on coding, handling and measurement of images. It is a selection of refereed papers from two sources: first, a satellite conference within the biannual International Conference on Pattern Recognition held in Rome, November 14-17, 1988, and second, work done at the International Basic Laboratory on Image Processing and Computer Graphics, Berlin, GDR. The papers are grouped into three sections. The first section contains new proposals for the specific computation of particular features of digital images and the second section is devoted to the introduction and testing of general approaches to the solution of problems met in digital geometry, image coding, feature extraction and object classification. The third section illustrates some recent practical results obtained on real images specifically in character and speech recognition as well as in biomedicine. All the techniques illustrated in this book will find direct application in the near future. This book should interest and stimulate the reader, provoke new thoughts and encourage further research in this widely appealing field.