

1. Record Nr.	UNISA996466125703316
Titolo	Discrete geometry for computer imagery : 14th IAPR international conference, DGC1 2008, Lyon, France, April 16-18, 2008 : proceedings // David Coeurjolly [and three others] (editors)
Pubbl/distr/stampa	Berlin ; ; Heidelberg ; ; New York : , : Springer, , [2008] ©2008
ISBN	3-540-79126-4
Edizione	[1st ed. 2008.]
Descrizione fisica	1 online resource (XIII, 558 p.)
Collana	Lecture notes in computer science ; ; 4992 LNCS sublibrary. SL 6, Image processing, computer vision, pattern recognition, and graphics
Classificazione	004 DAT 756f SS 4800
Disciplina	006.6869
Soggetti	Computer graphics Discrete geometry - Data processing Geometric tomography
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Invited Papers -- Digital Geometry Processing with Topological Guarantees -- What Can We Learn from Discrete Images about the Continuous World? -- Weak Rational Computing for Digital Geometry -- Models for Distance Geometry -- A First Look into a Formal and Constructive Approach for Discrete Geometry Using Nonstandard Analysis -- Generation and Recognition of Digital Planes Using Multi-dimensional Continued Fractions -- About the Frequencies of Some Patterns in Digital Planes Application to Area Estimators -- Combinatorial View of Digital Convexity -- Decomposition and Construction of Neighbourhood Operations Using Linear Algebra -- Digitally Continuous Multivalued Functions -- Continued Fractions and Digital Lines with Irrational Slopes -- Discrete and Combinational Topology -- New Characterizations of Simple Points, Minimal Non-simple Sets and P-Simple Points in 2D, 3D and 4D Discrete Spaces -- Cancellation of Critical Points in 2D and 3D Morse and Morse-Smale

Complexes -- Characterizing and Detecting Toric Loops in n-Dimensional Discrete Toric Spaces -- Insertion and Expansion Operations for n-Dimensional Generalized Maps -- Discrete Complex Structure on Surfel Surfaces -- Minimal Simple Pairs in the Cubic Grid -- Determining Whether a Simplicial 3-Complex Collapses to a 1-Complex Is NP-Complete -- Geometric Transforms -- Medial Axis LUT Computation for Chamfer Norms Using -Polytopes -- Weighted Neighbourhood Sequences in Non-Standard Three-Dimensional Grids -- Metricity and Algorithms -- Euclidean Eccentricity Transform by Discrete Arc Paving -- Statistical Template Matching under Geometric Transformations -- Distance Transformation on Two-Dimensional Irregular Isothetic Grids -- Self-similar Discrete Rotation Configurations and Interlaced Sturmian Words -- Segmenting Simplified Surface Skeletons -- Discrete Shape Representation, Recognition and Analysis -- Geometric Feature Estimators for Noisy Discrete Surfaces -- Normals and Curvature Estimation for Digital Surfaces Based on Convolutions -- On Minimal Moment of Inertia Polyominoes -- Gift-Wrapping Based Preimage Computation Algorithm -- Digital Planar Surface Segmentation Using Local Geometric Patterns -- Robust Estimation of Curvature along Digital Contours with Global Optimization -- An Efficient and Quasi Linear Worst-Case Time Algorithm for Digital Plane Recognition -- Tangential Cover for Thick Digital Curves -- Binomial Convolutions and Derivatives Estimation from Noisy Discretizations -- Discrete Tomography -- Selection of Local Thresholds for Tomogram Segmentation by Projection Distance Minimization -- Reconstructing Binary Matrices with Neighborhood Constraints: An NP-hard Problem -- An Exact, Non-iterative Mojette Inversion Technique Utilising Ghosts -- Approximating hv-Convex Binary Matrices and Images from Discrete Projections -- Morphological Analysis -- Advances in Constrained Connectivity -- On Watershed Cuts and Thinnings -- A New Fuzzy Connectivity Class Application to Structural Recognition in Images -- Directional Structures Detection Based on Morphological Line-Segment and Orientation Functions -- Discrete Modelling and Visualization -- Predicting Corresponding Region in a Third View Using Discrete Epipolar Lines -- A Discrete Modelling of Soil Fragments Transport by Runoff -- Discrete and Combinational Tools for Image Segmentation and Analysis -- Optimal Difference Operator Selection -- First Results for 3D Image Segmentation with Topological Map -- Adaptive Morphological Filtering Using Similarities Based on Geodesic Time -- Book Scanner Dewarping with Weak 3d Measurements and a Simplified Surface Model -- 3D Image Topological Structuring with an Oriented Boundary Graph for Split and Merge Segmentation.

Sommario/riassunto

This book constitutes the refereed proceedings of the 14th IAPR TC-18 International Conference on Discrete Geometry for Computer Imagery, DGCI 2008, held in Lyon, France, in April 2008. The 23 revised full papers and 22 revised poster papers presented together with 3 invited papers were carefully reviewed and selected from 76 submissions. The papers are organized in topical sections on models for discrete geometry, discrete and combinatorial topology, geometric transforms, discrete shape representation, recognition and analysis, discrete tomography, morphological analysis, discrete modelling and visualization, as well as discrete and combinatorial tools for image segmentation and analysis.
