

1. Record Nr.	UNISA996465982103316
Titolo	Discrete Geometry for Computer Imagery [[electronic resource]] : 6th International Workshop, DGCI'96, Lyon, France, November 13 - 15, 1996, Proceedings // edited by Serge Miguet, Annick Montanvert, Stephane Ubeda
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 1996
ISBN	3-540-49595-9
Edizione	[1st ed. 1996.]
Descrizione fisica	1 online resource (XII, 360 p.)
Collana	Lecture Notes in Computer Science, , 0302-9743 ; ; 1176
Disciplina	006.6/01/516
Soggetti	Computer simulation Signal processing Image processing Speech processing systems Optical data processing Computer graphics Convex geometry Discrete geometry Mathematics Visualization Simulation and Modeling Signal, Image and Speech Processing Image Processing and Computer Vision Computer Graphics Convex and Discrete Geometry
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	On recent trends in discrete geometry in computer science -- Least squares fitting of digital polynomial segments -- Geometrical parameters extraction from discrete paths -- A 3D-hole closing algorithm -- Multiresolution representation of shape in binary images -- Discrete elastica -- Fractal representation of planar shapes --

Volume synthesis -- Fast computation of the normal vector field of the surface of a 3-D discrete object -- Finite element meshes by means of voxels -- Polyhedra generation from lattice points -- Recognizing arithmetic straight lines and planes -- A topologically consistent representation for image analysis: The Frontiers Topological Graph -- Determining the components of the complement of a Digital $(n-1)$ -manifold in \mathbb{R}^n -- Determination of discrete sampling grids with optimal topological and spectral properties -- Inter-pixel Euclidean paths for image analysis -- Filling driven by contour marching -- Hypergraph model of digital topology for grey level images -- Application of skeletonization algorithms for myocardial spect quantification -- Supercover 3D Polygon -- Topologically defined isosurfaces -- Iso-surface extraction in 4D with applications related to scale space -- Complexity of discrete surfaces in the Dividing-cubes algorithm -- Circle digitization and cellular automata -- Reconstructing convex polyominoes from horizontal and vertical projections II -- The Quasi-Shear rotation -- Computational geometry and discrete computations -- Some topological properties of discrete surfaces -- A statistical process for surface tracking.

Sommario/riassunto

This book constitutes the refereed proceedings of the 6th International Workshop on Discrete Geometry for Computer Imagery, DGCI'96, held in Lyon, France, in November 1996. Computer imaging essentially depends on discrete models for coding, processing, recognition, representation, etc. The volume presents 24 revised full papers selected from 41 submissions together with 3 invited contributions and a tutorial paper, which bridges the gap between theory and practice. The issues addressed are topology, geometry, shape representation, 3D surfaces and volumes, models for discrete space, image transformation and generation.
