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Nota di contenuto	Models for Discrete Geometry -- Facet Connectedness of Discrete Hyperplanes with Zero Intercept: the General Case -- About the Maximum Cardinality of the Digital Cover of a Curve with a Given Length -- Binary pictures with excluded patterns -- Discrete and Combinatorial Topology -- 2D Topological Map Isomorphism for Multi-Label Simple Transformation Definition.-Isthmus-based Parallel and Asymmetric 3D Thinning Scheme and Algorithms -- Completions and simple homotopy -- Geometric Transforms -- 2D Subquadratic Separable Distance Transformation for Path-Based Norms -- Anti-Aliased Euclidean Distance Transform on 3D Sampling Lattices -- Efficient neighbourhood computing for discrete rigid transformation

graph Search -- The Minimum Barrier Distance – Stability to seed point position -- Discrete Shape Representation, Recognition and Analysis -- Efficient computation of the outer hull of a discrete path -- Voronoi-based geometry estimator for 3D digital surfaces -- Convex Hull of Digital Straight Segments -- Parameter-free and Multigrid Convergent Digital Curvature Estimators -- Freeman digitization and tangent word based estimators -- Determination of Length and Width of a Line-segment by using a Hough Transform -- Stable shape comparison of surfaces via Reeb graphs -- About multigrid convergence of some length estimators -- Discrete Tomography -- Non-additive bounded sets of uniqueness in Z^n -- Back-Projection Filtration Inversion of Discrete Projections -- Discrete Tomography Reconstruction Algorithms for Images with a Blocking Component -- 2A An Entropic Perturbation Approach to TV-Minimization for Limited-Data Tomography -- Fourier inversion of the Mojette transform -- Uniqueness regions under sets of generic projections in discrete tomography -- Adaptive refinement for discrete tomography -- Morphological Analysis -- Exact Evaluation of Stochastic Watersheds: From Trees to General Graphs -- On making nD images well-composed by a self-dual local interpolation -- Discrete Modelling and Visualization.-Implicit Digital Surfaces in Arbitrary Dimensions -- Algorithms for Fast Digital Straight Segments Union -- 29 Digital Geometry from a Geometric Algebra perspective -- Discrete and Combinatorial Tools for Image Segmentation and Analysis -- 39 Segmentation of 3D Articulated Components by Slice-based Vertex-weighted Reeb Graph -- Taylor Optimal Kernels for Derivative Estimation -- On Finding Spherical Geodesic Paths and Circles in Z^3 -- 43 Discrete Curve Evolution on Arbitrary Triangulated 3D Mesh.

Sommario/riassunto

This book constitutes the thoroughly refereed proceedings of the 18th International Conference on Discrete Geometry for Computer Imagery, DGCI 2014, held in Siena, Italy, September 2014. The 34 revised full papers presented were carefully selected from 60 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, Discrete and Combinatorial Tools for Image Segmentation and Analysis.
