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| Nota di contenuto | Topology-preserving deletion of 1's from 2-, 3- and 4-dimensional binary images -- On the reconstruction of finite lattice sets from their X-rays -- Aspects in topology-based geometric modeling Possible tools for discrete geometry? -- Applications of digital straight segments to economical image encoding -- Maximal superpositions of grids and an application -- Multiresolution representation of shapes in binary images II: Volume images -- Coplanar tricubes -- Coexistence of tricubes in digital naive plane -- Some structural properties of |

discrete surfaces -- A linear algorithm for constructing the polygon adjacency relation in iso-surfaces of 3D images -- Digital lighting functions -- Digital topologies revisited: An approach based on the topological point-neighbourhood -- The Euler characteristic of discrete object -- Fast estimation of mean curvature on the surface of a 3D discrete object -- Ellipses estimation from their digitization -- Topological errors and optimal chamfer distance coefficients -- Homotopy in 2-dimensional digital images -- Set manipulations of fractal objects using matrices of IFS -- Ray-tracing and 3-D objects representation in the BCC and FCC grids -- Supercover of straight lines, planes and triangles.

Sommario/riassunto

This book constitutes the refereed proceedings of the 7th International Workshop on Discrete Geometry for Computer Imagery, DGCI '97, held in Montpellier, France, in December 1997. The volume presents 17 revised full papers together with three invited full papers. The contributions are organized in sections on 2D recognition, discrete shapes and planes, surfaces, topology, features, and from principles to applications.