1. Record Nr. UNINA9911047692303321

Autore	Wilkinson M. H. F (Michael H. F.)
Titolo	Discrete Geometry and Mathematical Morphology : 4th International Joint Conference, DGMM 2025, Groningen, The Netherlands, November 3–6, 2025, Proceedings / / edited by Michael H. F. Wilkinson, Jií Kosinka
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2026
ISBN	9783032095442 9783032095435
Edizione	[1st ed. 2026.]
Descrizione fisica	1 online resource (874 pages)
Collana	Lecture Notes in Computer Science, , 1611-3349 ; ; 16296
Disciplina	006
Soggetti	Image processing - Digital techniques Computer vision Computer science - Mathematics Machine learning Computer networks Application software Computer Imaging, Vision, Pattern Recognition and Graphics Mathematics of Computing Machine Learning Computer Communication Networks Computer and Information Systems Applications
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	-- Discrete Geometry – Models, Transforms, and Visualization -- An Analytical Definition of Discrete Circles in the Triangular Grid. -- Geometry of Gauss digitized convex shapes. -- Exact visibility on digitized shapes and application to saliency-aware normal estimation. -- Convex and concave decomposition of digitized shapes using plane probing and visibility. -- First Results on Locally Turn-Bounded Surfaces in the 3D Euclidean Space. -- Computational Aspects of Discrete Structures and Tilings -- How to peel fully convex digital sets. -- Exact polyominoes and non-decomposability. -- Tilepaint and

Aquarium Puzzles in Periodic Grids. -- Conversion of a Digital Object into a Finite Set of Balls: Complexity. -- Discrete and Combinatorial Topology -- The Mid-sphere Cousin of the Medial Axis Transform. -- Subfield-Based 3D Curve-Thinning on (18,12) Pictures of the FCC Grid. -- Characterization of the computed homology and cohomology bases. -- Computing gradient vector fields with Morse sequences. -- Hierarchical and Graph-Based Models, Analysis and Segmentation -- Designing Connected Filters using the Topological Tree of Shapes. -- Efficient Connected Alternating Sequential Filters Based on Component Trees. -- Spectrogram denoising by filtering max-trees. -- On the constrained maximization of influence over a directed tree structure. ,- Discrete Spiral and Max-Link, Complementary Tools for Vision. -- Numerical Implementation of Variational Morphological Operators on Graphs. -- Algorithms -- Shape Filtering and Max-tree Attribute Computation on a GPU. -- On the properties of a class of greedy algorithms for multicriteria optimization. -- The Tree of Shapes as a distance transform: building the ToS on High-Dynamic Range images. -- A linear time algorithm for local minimum and maximum filters. -- Waterfall-Boruvka based algorithm for binary partition tree. -- Learning Based Morphology -- Improving Morphological Networks for Learning Image-to-Image Transforms. -- A mathematical morphology view of the universal representation of scattering networks. -- Learning Morphological Representations of Image Transformations: Influence of Initialization and Layer Differentiability. -- Morphological Filters, PDEs and Multivariate Morphology -- Morphological PDEs with Rotationally Invariant Space-Fractional Derivatives. -- On the representation of stack operators by mathematical morphology. -- Morphological Leveling based on the Log-Exp-Supremum for Colour Images. -- Approximating Condorcet Ordering for Vector-valued Mathematical Morphology. -- Mathematical Morphology and Digital Geometry for Applications -- Microscopic Image Reconstruction under Convexity Constraints. -- Efficient Content-Based Time Series Retrieval using Pattern Spectra. -- Morphological Granulometric Analysis of Particle Imagery from Microgravity Experiments. -- Formalizing an Iterated Morphological Erosion for the Discovery of Musical Patterns and Their Variations. -- Digital plane detection in a point set: application to the interactive extraction of charcoal platforms from airborne LiDAR.

Sommario/riassunto

This book constitutes the refereed proceedings of the 4th International Joint Conference on Discrete Geometry and Mathematical Morphology, DGMM 2025, held in Groningen, The Netherlands, during November 3–6, 2025. The 37 full papers included in this book were carefully reviewed and selected from 52 submissions. They were organized in topical sections as follows: Discrete Geometry – Models, Transforms, and Visualization; Computational Aspects of Discrete Structures and Tilings; Discrete and Combinatorial Topology; Hierarchical and Graph-Based Models, Analysis and Segmentation; Algorithms; Morphological Filters, PDEs and Multivariate Morphology; Mathematical Morphology and Digital Geometry for Applications.