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| Collana                 | Image Processing, Computer Vision, Pattern Recognition, and Graphics ; ; 7599   |
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| Soggetti                | Optical data processing<br>Pattern recognition<br>Artificial intelligence<br>Computer graphics<br>Algorithms<br>Image Processing and Computer Vision<br>Pattern Recognition<br>Artificial Intelligence<br>Computer Graphics<br>Algorithm Analysis and Problem Complexity<br>Computer Imaging, Vision, Pattern Recognition and Graphics  |
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| Livello bibliografico   | Monografia  |
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| Nota di bibliografia    | Includes bibliographical references and author index.   |
| Nota di contenuto       | Robust and Scalable Interactive Freeform Modeling of High Definition Medical Images -- 3D Anatomical Shape Atlas Construction Using Mesh Quality Preserved Deformable Models -- Automatic Fracture Reduction -- Age-Related Changes in Vertebral Morphometry by Statistical Shape Analysis -- Automatic Meshing of Femur Cortical Surfaces from Clinical CT Images -- Statistical Surface Recovery: A Study on Ear Canals -- Automated Segmentation of Cerebral Aneurysms Based on Conditional Random Field and Gentle Adaboost -- Carving Mesh with Deformation for Soft Tissue Removal Simulation -- Synthesis of Realistic Subcortical |

Anatomy with Known Surface Deformations -- Robust Shape Correspondence via Spherical Patch Matching for Atlases of Partial Skull Models -- Feature-Preserving, Multi-material Mesh Generation Using Hierarchical Oracles -- Partition Cortical Surfaces into Supervertices: Method and Application -- Automatic Boundary Evolution Tracking via a Combined Level Set Method and Mesh Warping Technique: Application to Hydrocephalus -- Simplified Reeb Graph as Effective Shape Descriptor for the Striatum -- Topology Aware Quad Dominant Meshing for Vascular Structures -- Volumetric Real-Time Particle-Based Representation of Large Unstructured Tetrahedral Polygon Meshes.

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Sommario/riassunto

This book constitutes the refereed proceedings of the International Workshop on Mesh Processing in Medical Image Analysis, MeshMed 2012, held in Nice, France, in October 2012 in conjunction with MICCAI 2012, the 15th International Conference on Medical Image Computing and Computer Assisted Intervention. The book includes 16 submissions, 8 were selected for presentation along with the 3 plenary talks representative of the meshing, and 8 were selected for poster presentations. The papers cover a broad range of topics, including statistical shape analysis and atlas construction, novel meshing approaches, soft tissue simulation, quad dominant meshing and mesh based shape descriptors. The described techniques were applied to a variety of medical data including cortical bones, ear canals, cerebral aneurysms and vascular structures.

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