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Collana	Image Processing, Computer Vision, Pattern Recognition, and Graphics ; ; 4035
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Soggetti	Application software Computer graphics Optical data processing Pattern recognition Algorithms Artificial intelligence Computer Applications Computer Graphics Image Processing and Computer Vision Pattern Recognition Algorithm Analysis and Problem Complexity Artificial Intelligence
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Regular Papers -- Wang-Tiles for the Simulation and Visualization of Plant Competition -- Multi-layered Stack Mosaic with Rotatable Objects -- Appearance and Geometry Completion with Constrained Texture Synthesis -- Highly Stylised Drawn Animation -- Non-uniform Differential Mesh Deformation -- Skeleton-Based Shape Deformation Using Simplex Transformations -- Skeleton-Driven Animation Transfer Based on Consistent Volume Parameterization -- Sketch Based Mesh Fusion -- Real-Time Rendering of Point Based Water Surfaces --

Controllable Multi-phase Smoke with Lagrangian Particles -- An Approximate Image-Space Approach for Real-Time Rendering of Deformable Translucent Objects -- Interactively Rendering Dynamic Caustics on GPU -- Fuzziness Driven Adaptive Sampling for Monte Carlo Global Illuminated Rendering -- Manifold Parameterization -- Sub-sampling for Efficient Spectral Mesh Processing -- Active Contours with Level-Set for Extracting Feature Curves from Triangular Meshes -- A Feature-Preserving and Volume-Constrained Flow for Fairing Irregular Meshes -- Matching 2D Shapes Using U Descriptors -- Electric Field Force Features-Harmonic Representation for 3D Shape Similarity -- A Novel Data Hiding Algorithm Using Normal Vectors of 3D Model -- Shape Matching Based on Fully Automatic Face Detection on Triangular Meshes -- Skin Color Analysis in HSV Color Space and Rendering with Fine Scale Skin Structure -- Comprehending and Transferring Facial Expressions Based on Statistical Shape and Texture Models -- Real-Time Facial Expression Mapping for High Resolution 3D Meshes -- A Comparison of Three Techniques to Interact in Large Virtual Environments Using Haptic Devices with Limited Workspace -- Trajectory-Based Grasp Interaction for Virtual Environments -- Research on User-Centered Design and Recognition Pen Gestures -- Simulating Pedestrian Behavior with Potential Fields -- Providing Full Awareness to Distributed Virtual Environments Based on Peer-to-Peer Architectures -- Motion Editing with the State Feedback Dynamic Model -- Content-Based Human Motion Retrieval with Automatic Transition -- MIP-Guided Vascular Image Visualization with Multi-Dimensional Transfer Function -- Automatic Foreground Extraction of Head Shoulder Images -- Direct Volume Rendering of Volumetric Protein Data -- Subdivision Depth Computation for Extra-Ordinary Catmull-Clark Subdivision Surface Patches -- An Approach for Embedding Regular Analytic Shapes with Subdivision Surfaces -- Adaptive Point-Cloud Surface Interpretation -- An Accurate Vertex Normal Computation Scheme -- Short Papers -- A Visibility-Based Automatic Path Generation Method for Virtual Colonoscopy -- Dynamic Medial Axes of Planar Shapes -- Steganography on 3D Models Using a Spatial Subdivision Technique -- Addressing Scalability Issues in Large-Scale Collaborative Virtual Environment -- Symmetric Tiling Patterns with the Extended Picard Group in Three-Dimensional Space -- An Efficient Keyframe Extraction from Motion Capture Data -- Visualization of Whole Genome Alignment with LOD Representation -- Steganography for Three-Dimensional Models -- Feature Sensitive Out-of-Core Chartification of Large Polygonal Meshes -- Simulating Reactive Motions for Motion Capture Animation -- Real-Time Shadow Volume Algorithm for Subdivision Surface Based Models -- Human Animation from 2D Correspondence Based on Motion Trend Prediction -- A Straightforward and Intuitive Approach on Generation and Display of Crack-Like Patterns on 3D Objects -- Near-Optimum Adaptive Tessellation of General Catmull-Clark Subdivision Surfaces -- Spline Thin-Shell Simulation of Manifold Surfaces -- Target Shape Controlled Cloud Animation -- Plausible Locomotion for Bipedal Creatures Using Motion Warping and Inverse Kinematics -- Aerial Image Relighting: Simulating Time of Day Variations -- Compression of Complex Animated Meshes -- A Video-Driven Approach to Continuous Human Motion Synthesis -- Spatio-temporal Visualization of Battlefield Entities and Events -- 3D City Model Generation from Ground Images -- Anticipation Effect Generation for Character Animation -- Real-Time Simulation of Dynamic Mirage Scenes -- Improving the Interval Ray Tracing of Implicit Surfaces -- Algorithms for Vector Graphic Optimization and Compression -- Detail-Preserving Local Editing for

Point-Sampled Geometry -- Automatic Stained Glass Rendering -- Vision-Based Augmented Reality Visual Guidance with Keyframes -- Optimized Framework for Real Time Hair Simulation -- Optimizing Mesh Construction for Quad/Triangle Schemes -- Rendering Optical Effects Based on Spectra Representation in Complex Scenes -- GVF-Based Transfer Functions for Volume Rendering -- Quasi-physical Simulation of Large-Scale Dynamic Forest Scenes -- Properties of G1 Continuity Conditions Between Two B-Spline Surfaces -- Automated Face Identification Using Volume-Based Facial Models -- Feature Curves with Cross Curvature Control on Catmull-Clark Subdivision Surfaces.

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## Sommario/riassunto

th The 24 Computer Graphics International Conference (CGI 2006) was held during June 26–28, 2006, in Hangzhou, China. This volume contains 39 full papers and 39 short papers accepted by CGI 2006. CGI conference was initially founded by the Computer Graphics Society in 1983 and has now become a widely recognized, high-quality academic conference in the field of computer graphics. Recent CGI conferences were held in New York (2005), Crete (2004), Tokyo (2003), Bradford (2002), Hong Kong (2001) and Geneva (2000). The CGI 2006 Program Committee received an overwhelming 387 submissions from many countries worldwide. China and Korea contributed many enthusiastic submissions. Based on the strict review comments of international experts, we selected 38 full papers and 37 short papers for presentations. The main topics covered by the papers in this volume include: • Digital geometry processing and meshes • Physically based animation • Figure modeling and animation • Geometric computing and processing • Non-photorealistic rendering • Image-based techniques • Visualization We are grateful to all the authors who submitted their papers to CGI 2006, to the international Program Committee members and external reviewers for their valuable time and effort spent in the review process, and members of the Organizing Committee for their hard work which made this conference successful. Finally, we would like to thank the National Natural Science Foundation of China and K. C. Wong Education Foundation, Hong Kong, for their financial support.

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