

Contents

Part I Feature Extraction

Discrete Distortion for 3D Data Analysis	3
Leila De Floriani, Federico Iuricich, Paola Magillo, Mohammed Mostefa Mesmoudi, and Kenneth Weiss	
Interactive Visualization—A Key Prerequisite for Reconstruction and Analysis of Anatomically Realistic Neural Networks	27
Vincent J. Dercksen, Marcel Oberlaender, Bert Sakmann, and Hans-Christian Hege	
MRI-Based Visualisation and Quantification of Rheumatoid and Psoriatic Arthritis of the Knee.....	45
Ben Donlon, Douglas Veale, Patrick Brennan, Robert Gibney, Hamish Carr, Louise Rainford, ChinTeck Ng, Eliza Pontifex, Jonathan McNulty, Oliver FitzGerald, and John Ryan	
An Application for the Visualization and Quantification of HIV-Associated Lipodystrophy from Magnetic Resonance Imaging Datasets	61
Tadhg O’Sullivan, Patrick Brennan, Peter Doran, Paddy Mallon, Stephen J. Eustace, Eoin Kavannagh, Allison Mcgee, Louise Rainford, and John Ryan	

Part II Classification

Semi-Automatic Rough Classification of Multichannel Medical Imaging Data	71
Ahmed Elmoasry, Mohamed Sadek Maswadah, and Lars Linsen	

An Evaluation of Peak Finding for DVR Classification of Biological Data	91
Aaron Knoll, Rolf Westerteiger, and Hans Hagen	
Part III Volumes and Shapes	
Vessel Visualization with Volume Rendering	109
Christoph Kubisch, Sylvia Glaßer, Mathias Neugebauer, and Bernhard Preim	
Efficient Selection of Representative Views and Navigation Paths for Volume Data Exploration	135
Eva Monclús, Pere-Pau Vázquez, and Isabel Navazo	
Feature Preserving Smoothing of Shapes Using Saliency Skeletons	155
Alexandru Telea	
Part IV Tensor Visualization	
Enhanced DTI Tracking with Adaptive Tensor Interpolation	175
Alessandro Crippa, Andrei C. Jalba, and Jos B.T.M. Roerdink	
Image-Space Tensor Field Visualization Using a LIC-like Method	193
Sebastian Eichelbaum, Mario Hlawitschka, Bernd Hamann, and Gerik Scheuermann	
Towards a High-quality Visualization of Higher-order Reynold's Glyphs for Diffusion Tensor Imaging	211
Mario Hlawitschka, Younis Hijazi, Aaron Knoll, and Bernd Hamann	
Part V Visualizing Genes, Proteins, and Molecules	
VENLO: Interactive Visual Exploration of Aligned Biological Networks and Their Evolution	231
Steffen Brasch, Georg Fuellen, and Lars Linsen	
Embedding Biomolecular Information in a Scene Graph System	251
Andreas Halm, Eva Eggeling, and Dieter W. Fellner	
Linking Advanced Visualization and MATLAB for the Analysis of 3D Gene Expression Data	267
Oliver Rübel, Soile V.E. Keränen, Mark Biggin, David W. Knowles, Gunther H. Weber, Hans Hagen, Bernd Hamann, and E. Wes Bethel	
Index	287