3-D Surface Geometry and Reconstruction: Developing Concepts and Applications

Umesh Chandra Pati (National Institute of Technology, Rourkela, India)

The methods used to digitize and reconstruct complex 3-D objects have evolved in recent years due to increasing attention from industry and research. 3-D models have applications in various domains, including reverse engineering, collaborative design, inspection, entertainment, virtual museums, medicine, geology and home shopping.

3-D Surface Geometry and Reconstruction: Developing Concepts and Applications provides developers and scholars with an extensive collection of research articles in the expanding field of 3-D reconstruction. This reference book investigates the concepts, methodologies, applications and recent developments in the field of 3-D reconstruction, making it a useful resource for students, researchers, academics, professionals and industry practitioners.

Topics Covered:
- 3-D Modeling and Rendering
- 3-D Object Shape Acquisition
- 3-D Reconstruction of Graph Objects
- 3-D Reconstruction of Underwater Natural Scenes
- 3-D Shape Measurement
- 3-D Surface Reconstruction
- Depth Estimation for HDR Images
- PDE-Based Image Processing
- Projective Geometry
- Reassembly of 3-D Fragments

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Market: This premier publication is essential for all academic and research library reference collections. It is a crucial tool for academicians, researchers, and practitioners and is ideal for classroom use.

Umesh C. Pati is an Associate Professor in the Department of Electronics and Communication Engineering at National Institute of Technology, Rourkela, India. He received a B.E. in Electrical Engineering from Regional Engineering College (now National Institute of Technology), Rourkela and M.Tech. and Ph.D. in Electrical Engineering from Indian Institute of Technology, Kharagpur, India. His current research interests are in the areas of image processing, computer vision, signal processing, and instrumentation. He has published one book and more than 40 research papers in referred journals and conference proceedings. He has served as referee in different international journals and conferences. He is a member of IEEE.
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Mahmood Nasirul Humaimi Bin (Universiti Teknologi Malaysia, Malaysia)

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