DESCRIPTION

While 3D vision has existed for many years, the use of 3D cameras and video-based modeling by the film industry has induced an explosion of interest for 3D acquisition technology, 3D content and 3D displays. As such, 3D video has become one of the new technology trends of this century.

The chapters in this book cover a large spectrum of areas connected to 3D video, which are presented both theoretically and technologically, while taking into account both physiological and perceptual aspects. Stepping away from traditional 3D vision, the authors, all currently involved in these areas, provide the necessary elements for understanding the underlying computer-based science of these technologies. They consider applications and perspectives previously unexplored due to technological limitations.

This book guides the reader through the production process of 3D videos; from acquisition, through data treatment and representation, to 3D diffusion. Several types of camera systems are considered (multiscopic or multiview) which lead to different acquisition, modeling and storage-rendering solutions. The application of these systems is also discussed to illustrate varying performance benefits, making this book suitable for students, academics, and also those involved in the film industry.
ABOUT THE AUTHOR

Laurent Lucas currently leads the SIC research group and is in charge of the virtual reality platform of the URCA (University of Reims Champagne Ardenne) in France. His research interests include visualization and co-operation between image processing and computer graphics, particularly in 3DTV, and their applications.

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