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Nota di contenuto	3D Videocommunication; Contents; List of Contributors; Symbols; Abbreviations; Introduction; Section I Applications of 3D Videocommunication; 1 History of Telepresence; 1.1 Introduction; 1.2 The Art of Immersion: Barker's Panoramas; 1.3 Cinerama and Sensorama; 1.4 Virtual Environments; 1.5 Teleoperation and Telerobotics; 1.6 Telecommunications; 1.7 Conclusion; References; 2 3D TV Broadcasting; 2.1 Introduction; 2.2 History of 3D TV Research; 2.3 A Modern Approach to 3D TV; 2.3.1 A Comparison with a Stereoscopic Video Chain; 2.4 Stereoscopic View Synthesis; 2.4.1 3D Image Warping

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	and Post-production; 3.1 Introduction; 3.2 Current Techniques for Integrating Real and Virtual Scene Content; 3.3 Generation of 3D Models of Dynamic Scenes; 3.4 Implementation of a Bidirectional Interface Between Real and Virtual Scenes; 3.4.1 Head Tracking; 3.4.2 View-dependent Rendering; 3.4.3 Mask Generation; 3.4.4 Texturing; 3.4.5 Collision Detection; 3.5 Conclusions; References 4 Free Viewpoint Systems4.1 General Overview of Free Viewpoint Systems; 4.2 Image Domain System; 4.2.1 EyeVision; 4.2.2 3D-TV; 4.2.3 Free Viewpoint Play; 4.3 Ray-space System; 4.3.1 FTV (Free Viewpoint TV); 4.3.2 Bird's-eye View System; 4.3.3 Light Field Video Camera System; 4.4 Surface Light Field System; 4.5.1 dodel-based System; 4.5.1 3D Room; 4.5.2 3D Video; 4.5.3 Multi-texturing; 4.6 Integral Photography System; 4.6.1 NHK System; 4.6.2 1D-II 3D Display System; 4.7 Summary; References; 5 Immersive Videoconferencing; 5.1 Introduction; 5.2 The Meaning of Telepresence in Videoconferencing 5.3 Multi-party Communication Using the Shared Table Concept5.4 Experimental Systems for Immersive Videoconferencing; 5.5 Perspective and Trends; Acknowledgements; References; Section II 3D Data Representation and Processing; 6 Fundamentals of Multiple-view Geometry; 6.1 Introduction; 6.2 Pinhole Camera Geometry; 6.3.3 Rectification; 6.3.4 3D Reconstruction; 6.4.3 Nultiple-view Constraints; 6.4.4 Uncalibrated Reconstruction form N views 6.4.5 Autocalibration6.5 Summary; References; 7 Stereo Analysis; 7.1 Stereo Analysis Using Two Cameras; 7.1.1 Standard Area-based Stereo Analysis; 7.1.2 Fast Real-time Approaches; 7.1.3 Post-processing; 7.2 Disparity From Three or More Cameras; 7.2.1 Two-camera versus Three-camera Disparity; 7.2.2 Correspondence Search with Three Views; 7.2.3 Post-processing; 7.3 Conclusion; References; 8 Reconstruction of Volumetric 3D Models; 8.1 Introduction; 8.2 Shape- from-Silhouette; 8.2.1 Rendering of Volumetric Models; 8.2.2 Octree Representation of Voxel Volumes 8.2.3 Camera Calibration from Silhouettes
Sommario/riassunto	The migration of immersive media towards telecommunication applications is advancing rapidly. Impressive progress in the field of media compression, media representation, and the larger and ever increasing bandwidth available to the customer, will foster the introduction of these services in the future. One of the key components for the envisioned applications is the development from two- dimensional towards three-dimensional audio-visual communications. With contributions from key experts in the field, 3D Videocommunication:provides a complete overview of existing systems and