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Titolo	Fundamentals of Multimedia / / by Ze-Nian Li, Mark S. Drew, Jiangchuan Liu
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Edizione	[3rd ed. 2021.]
Descrizione fisica	1 online resource (XXV, 824 p. 390 illus., 113 illus. in color.)
Collana	Texts in Computer Science, , 1868-095X
Disciplina	006.7
Soggetti	Computer vision Multimedia systems Image processing - Digital techniques Signal processing Computer networks Internet programming Computer Vision Multimedia Information Systems Computer Imaging, Vision, Pattern Recognition and Graphics Signal, Speech and Image Processing Computer Communication Networks Web Development
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Part I: Introduction and Multimedia Data Representations -- Introduction to Multimedia -- A Taste of Multimedia -- Graphics and Image Data Representations -- Color in Image and Video -- Fundamental Concepts in Video -- Basics of Digital Audio -- Part II: Multimedia Data Compression -- Lossless Compression Algorithms -- Lossy Compression Algorithms -- Image Compression Standards -- Basic Video Compression Techniques -- MPEG Video Coding: MPEG-1, 2, 4 and 7 -- Modern Video Coding Standards: H.264, H.265, and H.266 -- Basic Audio Compression Techniques -- MPEG Audio Compression -- Part III: Multimedia Communications and Networking

-- Network Services and Protocols for Multimedia Communications --
Internet Multimedia Content Distribution -- Multimedia over Wireless
and Mobile Networks -- Cloud Computing for Multimedia Services --
Part IV: Human-Centric Interactive Multimedia -- Online Social Media
Sharing -- Augmented Reality and Virtual Reality -- Content-Based
Retrieval in Digital Libraries -- Cloud Computing for Multimedia
Services.

Sommario/riassunto

Multimedia is a ubiquitous part of the digital world in which we live and think, touching upon almost all aspects of computer science and engineering. This comprehensive textbook introduces the Fundamentals of Multimedia in an accessible manner, addressing real issues commonly faced in the workplace. Suitable for both advanced undergraduate and graduate students, the essential concepts are explained in a practical way to enable students to apply their existing skills and acquired knowledge to solve problems in multimedia. Fully revised and updated, this new edition now includes coverage of current topics such as 360 video and the video coding standard H.266, as well as new-generation social, mobile and cloud computing for human-centric interactive multimedia, augmented reality and virtual reality, deep learning for multimedia processing, and their attendant technologies. Topics and features: Presents a brief history and overview of the key concepts in multimedia, including important data representations and color science Discusses the impact of social media and cloud computing on information sharing, as well as on multimedia content search and retrieval Includes numerous helpful study exercises at the end of each chapter Reviews lossless and lossy compression methods for image, video and audio data Examines the demands placed by multimedia communications on wired and wireless networks Provides supplementary resources for both students and instructors at an associated website This classroom-tested textbook is ideal for upper-level undergraduate and graduate courses on multimedia systems. Practitioners in industry interested in current multimedia technologies will also find the book to be a useful reference. Drs. Ze-Nian Li, Mark S. Drew, and Jiangchuan Liu are Professors in the School of Computing Science at Simon Fraser University, Vancouver, BC, Canada. .
