Distributed Source Coding

Theory, Algorithms and Applications

Edited By Pier Luigi Dragotti and Michael Gastpar

Everything a signal and image processing engineer needs to know about distributed source coding— theorems, practical algorithms for design and the latest applications

• The first book on a key technology that is vital for sensor networks, ad-hoc networks and distributed video
• Edited and written by the leading players in the field, providing a complete and authoritative reference
• Contains all the latest theory, practical algorithms for DSC design and cutting-edge applications

This book gives a clear understanding of the performance limits of distributed source code for specific classes of sources and presents the design and application of practical algorithms for realistic scenarios.

Material covered includes the use of standard channel codes, such as LDPC and Turbo codes, for DSC, and discussion of the suitability of compressed sensing for distributed compression of sparse signals. Extensive applications are presented and include distributed video coding, microphone arrays and securing biometric data.

“Distributed Source Coding is a great resource covering the breadth and depth of distributed source coding that’s appropriate for everyone from theoreticians to practitioners.”

— Richard Baraniuk, Rice University

About the editors:

Pier Luigi Dragotti is currently a senior lecturer in the Electrical and Electronic Engineering Department at Imperial College, London. He has worked as a researcher at Bell Labs and EPFL and is a member of the IEEE Image and MultiDimensional Signal Processing (IMDSP) Technical Committee.

Michael Gastpar is currently an associate professor at the University of California, Berkeley. His research interests are in network information theory and related coding and signal processing techniques, with applications to sensor networks and neuroscience. He won the 2002 EPFL Best Thesis Award, an NSF CAREER award in 2004, and an Okawa Foundation Research Grant in 2008.

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**CONTRIBUTORS:**

Krishnan Eswaran, UC Berkeley
Michael Gastpar, UC Berkeley
Varit Chaisinthop, Imperial College, London
Pier Luigi Dragotti, Imperial College, London
David Rebollo-Monedero, Universitat Politècnica de Catalunya
Bernd Girod, Stanford University
Ertem Tuncel, UC Riverside
Jayanth Nayak, UC Riverside
Kenneth Rose, UC Santa Barbara
Vivek Goyal, Massachusetts Institute of Technology
Alyson Fletcher, UC Berkeley
Sundeep Rangan, Qualcomm Technologies, Inc.
Christine Guillemot, INRIA, France
Aline Roumy, INRIA, France
Olivier Roy, Swiss Federal Institute of Technology
T. Ajdler, Swiss Federal Institute of Technology
R. Konsbruck, Swiss Federal Institute of Technology
Martin Vetterli, Swiss Federal Institute of Technology
Fernando Pereira, IST, Portugal
Catarina Brites, IST, Portugal
João Ascenso, IST, Portugal
Jayanth Nayak, UC Riverside
Bi Song, UC Riverside
Ertem Tuncel, UC Riverside
Amit Roy Chowdhury, UC Riverside
Ngai-Man Cheung, UC South California
Antonio Ortega, UC South California
Anthony Vetro, Mitsubishi Electric Research Labs (MERL)
Stark Draper, UC Wisconsin, Madison
Shantanu Rane, MERL
Jonathan Yedidia, MERL

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