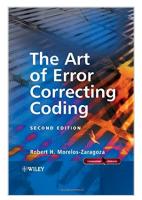
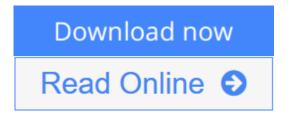
## The Art of Error Correcting Coding



By Robert H. Morelos-Zaragoza



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Building on the success of the first edition, which offered a practical introductory approach to the techniques of error concealment, this book, now fully revised and updated, provides a comprehensive treatment of the subject and includes a wealth of additional features. *The Art of Error Correcting Coding, Second Edition* explores intermediate and advanced level concepts as well as those which will appeal to the novice.

All key topics are discussed, including Reed-Solomon codes, Viterbi decoding, soft-output decoding algorithms, MAP, log-MAP and MAX-log-MAP. Reliability-based algorithms GMD and Chase are examined, as are turbo codes, both serially and parallel concatenated, as well as low-density parity-check (LDPC) codes and their iterative decoders.

- Features additional problems at the end of each chapter and an instructor's solutions manual
- Updated companion website offers new C/C ++programs and MATLAB scripts, to help with the understanding and implementation of basic ECC techniques
- Easy to follow examples illustrate the fundamental concepts of error correcting codes
- Basic analysis tools are provided throughout to help in the assessment of the error performance block and convolutional codes of a particular error correcting coding (ECC) scheme for a selection of the basic channel models

This edition provides an essential resource to engineers, computer scientists and graduate students alike for understanding and applying ECC techniques in the transmission and storage of digital information.

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#### About the Author

**Robert H. Morelos-Zaragoza** received BSEE and MSEE degrees from the National Autonomous University of Mexico (UNAM) in 1985 and 1987 respectively, and a PhD in Electrical Engineering from the University of Hawaii at Manoa in 1992. He has held numerous research posts in Mexico and Japan. In 2002, Robert joined the Department of Electrical Engineering at San José State University, as an Associate Professor. His current research interests include error correcting coding (ECC/FEC), advanced digital communication receiver design, software-defined radio (SDR), space-time signal processing techniques and ultra-wideband (UWB) communication systems. Prof. Morelos-Zaragoza is a senior member of IEEE, and member of IEICE (Japan) and of Eta Kappa Nu.

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