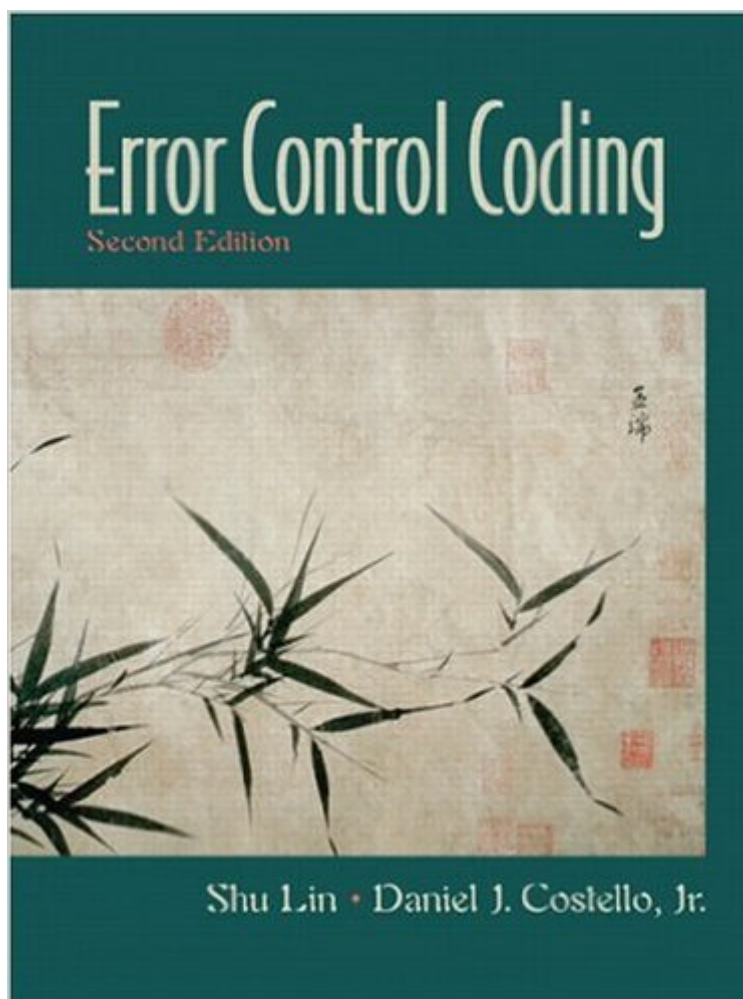The book was found

Error Control Coding (2nd Edition)

Synopsis

A reorganized and comprehensive major revision of a classic book, this edition provides a bridge between introductory digital communications and more advanced treatment of information theory. Completely updated to cover the latest developments, it presents state-of-the-art error control techniques. Coverage of the fundamentals of coding and the applications of codes to the design of real error control systems. Contains the most recent developments of coded modulation, trellises for codes, soft-decision decoding algorithms, turbo coding for reliable data transmission and other areas. There are two new chapters on Reed-Solomon codes and concatenated coding schemes. Also contains hundreds of new and revised examples; and more than 200 illustrations of code structures, encoding and decoding circuits and error performance of many important codes and error control coding systems. Appropriate for those with minimum mathematical background as a comprehensive reference for coding theory.

Book Information

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Customer Reviews

Lin and Costello produced an excellent text which is targeted towards engineers as opposed to mathematicians. The mathematics behind error correction can be extremely intensive and, with other texts, I quickly become lost in complex proofs. Lin and Costello present error correction in method, with plenty of good examples, which those who need to know how to apply it can understand and the gory details of the theory are not as important. I used this book as my

introduction to error correction and it continues to be a great reference book. The only drawback in it is since it was published in '82, it stops at convolutional coding and does not cover trellis-coded modulation or turbo codes.

I had the previous version of this book as my text at USC. This version is a huge improvement over the last one. This one covers all the new advances and adds emphasis on the use of coding to communications channels. A complaint I had of the last version was that it under-emphasized coding gains and $Eb/N0$ vs. BER performance figures. This book has overcome many of those difficulties. It is still a bit ponderous in places but then it is the only book that covers the material in this much detail, truly a Bible of the field. It is a great graduate level text and a must-have book for any comm engineer. Charan Langton complextoreal.com

I am an experienced EE for many years mainly working on digital circuits. I had always regretted not to take the ECC (Error Correcting Code) course why I was in school since from time to time I needed to use some of the ECC circuits. This year I finally decided to begin my serious study of the ECC using this book after I got myself an interesting project utilizing many coding IP's. I have been studying this book diligently for a while on daily basis.I am not done with it yet but I have to say that the math treatment is rather poor. I was quite lost in reading the cyclic code detection section. The theorem proofs were not convincing at all. Frustrated I started to look for help online. I was lucky enough to find the original paper of this material by Peterson and Brown published on IRE 1961. I was quite thrilled to read through their paper without trouble at all for it was clear and concise. I regained my confidence after that. I am sure being experts Lin & Costello must have had studied this paper. I just don't know why they didn't use their approaches to write this section in this book. Do authors always have to use their own methods to show how smart they are even theirs are definitely inferior?In my humble opinion a good book writer should always consider the reader's benefits first. As for this book and my ECC study I'll continue since I have bought it and there are many good materials in it.

a very detailed book for getting into Galois field arithmetics, cyclic codes, convolutional codes, ... As a very beginner I had no big problems understanding the content. I am not the type of guy who could understand just by reading the theory - this book gives a lot of very useful examples, so you could call it fun reading it!

At last a readable book on this important subject. The authors did not get carried away with heavy math that is not really necessary for using the algorithms in this book. I especially liked the reverence they gave "special codes" which have been discovered and used over the years. The only thing I wish I could get is the answers to the problems. I would like to know if I got them right! I understand why this is not feasible if these are course textbooks, however. Nice job and thanks!

Lin & Costello is the standard book on error correcting codes for a reason. It explains concepts well in addition to a strong mathematical presentation. It also contains a wealth of information on various coding techniques, not only the standard techniques used in industry.The one downside of this book: the binding is horrible! Mine fell apart within two months of purchase, and is now in three different pieces on my bookshelf.

The Author spent a huge effort in making things clear. There is always a logic sequence between topics; all appears easy at the first glance. I particularly like chapter 2, regarding Algebra and Galois Fields.

Not only does this book contain almost all the important information about coding you could hope for, but it's written in such a clear way with such a consistent notation that it's also wonderful for learning. This book is more than twice as long as the first edition and serves as a great graduate-level text or reference for someone designing ECC systems.

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