List Decoding of Error-Correcting Codes: Winning Thesis of the 2002 ACM Doctoral Dissertation Competition (Lecture Notes in Computer Science)

Venkatesan Guruswami

List Decoding of Error-Correcting Codes: Winning Thesis of the 2002 ACM Doctoral Dissertation Competition (Lecture Notes in Computer Science)

Venkatesan Guruswami

List Decoding of Error-Correcting Codes: Winning Thesis of the 2002 ACM Doctoral Dissertation Competition (Lecture Notes in Computer Science) Venkatesan Guruswami

How can one exchange information e?ectively when the medium of com- nication introduces errors? This question has been investigated extensively starting with the seminal works of Shannon (1948) and Hamming (1950), and has led to the rich theory of "error-correcting codes". This theory has traditionally gone hand in hand with the algorithmic theory of "decoding" that tackles the problem of recovering from the errors e?ciently. This thesis presents some spectacular new results in the area of decoding algorithms for error-correctingcodes. Speci?cally,itshowshowthenotionof"list-decoding" can be applied to recover from far more errors, for a wide variety of err- correcting codes, than achievable before. A brief bit of background: error-correcting codes are combinatorial str- tures that show how to represent (or "encode") information so that it is - silient to a moderate number of errors. Speci?cally, an error-correcting code takes a short binary string, called the message, and shows how to transform it into a longer binary string, called the codeword, so that if a small number of bits of the codewordare ?ipped, the resulting string does not look like any other codeword. The maximum number of errorsthat the code is guaranteed to detect, denoted d, is a central parameter in its design. A basic property of such a code is that if the number of errors that occur is known to be smaller than d/2, the message is determined uniquely. This poses a computational problem,calledthedecodingproblem:computethemessagefromacorrupted codeword, when the number of errors is less than d/2.

Download and Read Free Online List Decoding of Error-Correcting Codes: Winning Thesis of the 2002 ACM Doctoral Dissertation Competition (Lecture Notes in Computer Science) Venkatesan Guruswami

From reader reviews:

Sally Oneal:

In other case, little individuals like to read book List Decoding of Error-Correcting Codes: Winning Thesis of the 2002 ACM Doctoral Dissertation Competition (Lecture Notes in Computer Science). You can choose the best book if you'd prefer reading a book. So long as we know about how is important the book List Decoding of Error-Correcting Codes: Winning Thesis of the 2002 ACM Doctoral Dissertation Competition (Lecture Notes in Computer Science). You can add understanding and of course you can around the world with a book. Absolutely right, since from book you can understand everything! From your country until foreign or abroad you can be known. About simple issue until wonderful thing you can know that. In this era, you can open a book or maybe searching by internet system. It is called e-book. You can utilize it when you feel weary to go to the library. Let's go through.

Nancy Sanchez:

The experience that you get from List Decoding of Error-Correcting Codes: Winning Thesis of the 2002 ACM Doctoral Dissertation Competition (Lecture Notes in Computer Science) may be the more deep you rooting the information that hide in the words the more you get enthusiastic about reading it. It does not mean that this book is hard to know but List Decoding of Error-Correcting Codes: Winning Thesis of the 2002 ACM Doctoral Dissertation Competition (Lecture Notes in Computer Science) giving you excitement feeling of reading. The article writer conveys their point in specific way that can be understood by simply anyone who read that because the author of this book is well-known enough. This kind of book also makes your own vocabulary increase well. Making it easy to understand then can go together with you, both in printed or e-book style are available. We recommend you for having this kind of List Decoding of Error-Correcting Codes: Winning Thesis of the 2002 ACM Doctoral Dissertation Competition (Lecture Notes in Computer Science) instantly.

Phyllis Callahan:

Information is provisions for anyone to get better life, information these days can get by anyone at everywhere. The information can be a expertise or any news even a concern. What people must be consider whenever those information which is within the former life are challenging be find than now's taking seriously which one works to believe or which one often the resource are convinced. If you find the unstable resource then you have it as your main information you will see huge disadvantage for you. All of those possibilities will not happen with you if you take List Decoding of Error-Correcting Codes: Winning Thesis of the 2002 ACM Doctoral Dissertation Competition (Lecture Notes in Computer Science) as the daily resource information.

Donna Cauley:

Precisely why? Because this List Decoding of Error-Correcting Codes: Winning Thesis of the 2002 ACM Doctoral Dissertation Competition (Lecture Notes in Computer Science) is an unordinary book that the inside of the publication waiting for you to snap it but latter it will jolt you with the secret it inside. Reading this book close to it was fantastic author who write the book in such remarkable way makes the content within easier to understand, entertaining technique but still convey the meaning thoroughly. So , it is good for you for not hesitating having this any longer or you going to regret it. This book will give you a lot of gains than the other book get such as help improving your skill and your critical thinking method. So , still want to delay having that book? If I were you I will go to the guide store hurriedly.

Download and Read Online List Decoding of Error-Correcting Codes: Winning Thesis of the 2002 ACM Doctoral Dissertation Competition (Lecture Notes in Computer Science) Venkatesan Guruswami #T3LEO69PSAY

Read List Decoding of Error-Correcting Codes: Winning Thesis of the 2002 ACM Doctoral Dissertation Competition (Lecture Notes in Computer Science) by Venkatesan Guruswami for online ebook

List Decoding of Error-Correcting Codes: Winning Thesis of the 2002 ACM Doctoral Dissertation Competition (Lecture Notes in Computer Science) by Venkatesan Guruswami Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read List Decoding of Error-Correcting Codes: Winning Thesis of the 2002 ACM Doctoral Dissertation Competition (Lecture Notes in Computer Science) by Venkatesan Guruswami books to read online.

Online List Decoding of Error-Correcting Codes: Winning Thesis of the 2002 ACM Doctoral Dissertation Competition (Lecture Notes in Computer Science) by Venkatesan Guruswami ebook PDF download

List Decoding of Error-Correcting Codes: Winning Thesis of the 2002 ACM Doctoral Dissertation Competition (Lecture Notes in Computer Science) by Venkatesan Guruswami Doc

List Decoding of Error-Correcting Codes: Winning Thesis of the 2002 ACM Doctoral Dissertation Competition (Lecture Notes in Computer Science) by Venkatesan Guruswami Mobipocket

List Decoding of Error-Correcting Codes: Winning Thesis of the 2002 ACM Doctoral Dissertation Competition (Lecture Notes in Computer Science) by Venkatesan Guruswami EPub