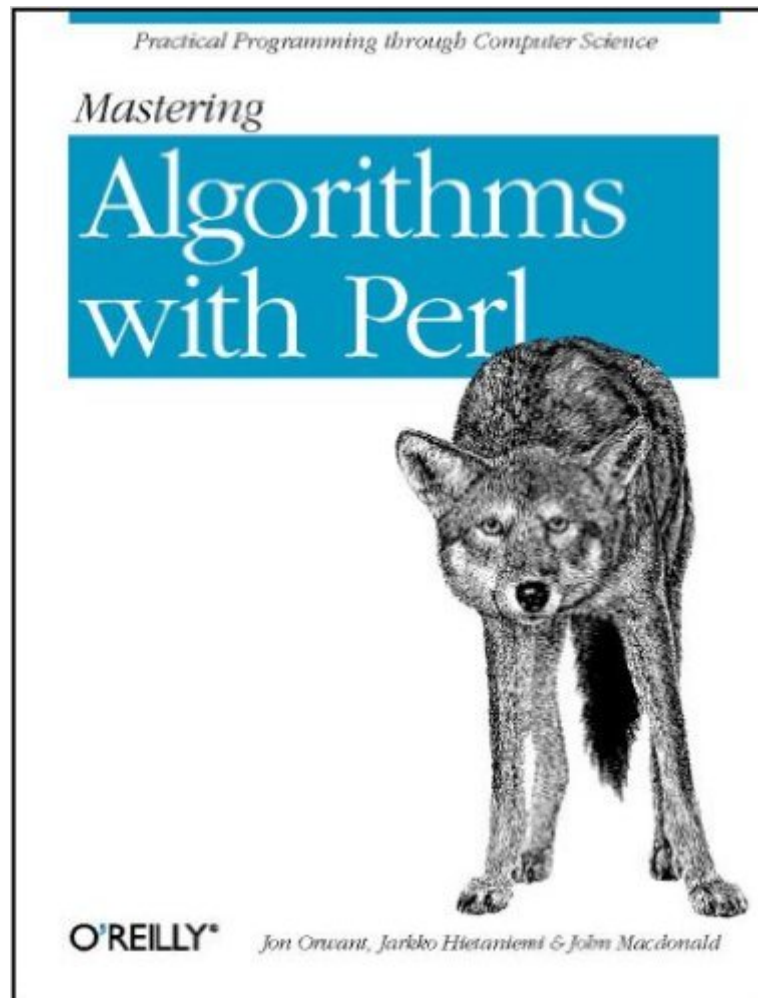# The book was found

Mastering Algorithms With Perl

Synopsis

Many programmers would love to use Perl for projects that involve heavy lifting, but miss the many traditional algorithms that textbooks teach for other languages. Computer scientists have identified many techniques that a wide range of programs need, such as:Fuzzy pattern matching for text (identify misspellings!)Finding correlations in dataGame-playing algorithmsPredicting phenomena such as Web trafficPolynomial and spline fittingUsing algorithms explained in this book, you too can carry out traditional programming tasks in a high-powered, efficient, easy-to-maintain manner with Perl.This book assumes a basic understanding of Perl syntax and functions, but not necessarily any background in computer science. The authors explain in a readable fashion the reasons for using various classic programming techniques, the kind of applications that use them, and -- most important -- how to code these algorithms in Perl.If you are an amateur programmer, this book will fill you in on the essential algorithms you need to solve problems like an expert. If you have already learned algorithms in other languages, you will be surprised at how much different (and often easier) it is to implement them in Perl. And yes, the book even has the obligatory fractal display program.There have been dozens of books on programming algorithms, some of them excellent, but never before has there been one that uses Perl.The authors include the editor of The Perl Journal and master librarian of CPAN; all are contributors to CPAN and have archived much of the code in this book there."This book was so exciting I lost sleep reading it." Tom Christiansen

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Customer Reviews

After reading rave reviews about this book all over the net, I decided to check it out. I found it a bit disappointing for several reasons. First, there appear to be type setting errors that are distracting. For example, there are sections with example code with text that follows, only the text that follows appears to be introducing the next code snippet, but is actually describing the snippet above (off by 1 error?) Indeed the final code snippet in a section has no following explanatory text.This is only a problem early on though because as the book progresses, the authors stop describing the code examples! In fact, I found myself trying to figure out what the text was doing in the chapters since all of the concepts were explained in code (without full explanations in the text). In addition, I found the unrelated annecdotes and allusions and obscure literary quotes a further distraction. I'm sure there is a certain academic audience that would appreciate this, but I hate having to look up words only to find out I didn't really need to look them up ;-).Some other things I disliked were the absence of hashes in the data structures section (perl has built in hashes, so you'd think a discussion on what a hash is, and hashing algorithms would be included in a perl algorithms book), and the description of algorithm analysis was too short.On the up side, the sorting and searching sections are very thorough (the perl code implementing them, not the text explaining the code), as are the other sections. If its perl your after, this book has some of the best perl code in print (save for Joseph Hall's "Effective Perl").In summary, if you already understand these topics, then this book will show you some excellent perl code to implement them. If you do not understand the data structures and algorithms already, I don't think this book is going to make them crystal clear (though the authors are good about referring the reader to other sources).4 camels for the high quality perl code and thoroughness, but it could have been 5 if the authors followed through with the type of supporting text that Hall did in EP.

This book ia fairly good introduction to the use of PERL in developing and implementing various algorithms, including scientific and cryptographic ones. Fortunately, source is included, setting the book apart from the usual books on computer algorithms. The first few chapters outline PERL data structures, with the built-in data structures discussed, along with a discussion of how to create new ones. The dynamic nature of arrays in PERL is emphasized, and this is a feature that sets PERL way above other languages, such as C and C++. Linked lists are given a detailed treatment along with garbage collection in PERL. The authors are careful to point out that reference counting in PERL will fail when one is dealing with a circle of reference values. A discussion of sorting follows, with radix and hybrid sorts being the most useful of the algorithms discussed. The authors give a useful comparison study of the running time of the sorting algorithms. This is followed by a

discussion of searching algorithms, which unfortunately omits any details of dynamic programming, which is useful in applying PERL to areas such as computational biology. The authors give a very interesting treatment of how to do set operations using PERL in the next chapter. They did not treat the case of fuzzy sets in detail though, unfortunately. Matrix algorithms are discussed next, with the PERL modules MatrixRead and PDL integrated into the discussion. I have only used PDL and its graphic library PGPLOT and have had varying degress of success with it. PERL still has a long way to go before it is accepted as a language suitable for numerical computations. Graph algorithms are the subject of the next chapter. The most useful section is the one on minimum spanning trees, so useful in network routing algorithms. This is followed by a thorough discussion of string algorithms in Chapter 9. These algorithms are extremely important in current applications, such as string matching and alignment in computational biology. That the authors give the source code for the algorithms is extremely helpful to those who need to apply these algorithms. The authors return to geometric algorithms in the next chapter, with only elementary ones being discussed, with brief overviews of PERL graphics modules available. Number systems and numerical precision are taken up in the next chapter, with 32 bit precision implemented in the discussion. The authors do however discuss how large number arithmetic can be implemented in PERL via the BigFloat and BigInt modules. This is followed by modular arithmetic and number theory , with PERL code given for the Miller-Rabin primality test. This chapter is very short, but it sets up the next chapter on cryptography, which begins with a discussion of passwords, with a PERL program given that checks valid passwords. Then, interestingly, a PERL 1-liner is given for cracking a password list. The discussion on passwords should be of interest to individuals first entering the field of computer security. This is followed by a fairly complete elaboration on authentication and checksums. Encryption of data is discussed in the next section, along with a brief mention of the AES, which at the time of publication of this book, was not settled. The RSA algorithm is discussed also, with a 3-line PERL code given for it, along with a more instructive version later. Only one section on steganography is included, and since this is a subject of intense research with useful applications, this is somewhat disappointing. The last three chapters covers probability and statistics and numerical analysis, and given the growing use of PDL in astrophysics and other areas of science, this is a fitting way to end the book. PERL code is given for the most popular probability distributions, and also for some of the standard statistical tests. Only some rudimentary algorithms are given for calculus and data interpolation, but the discussion should prepare the reader for more advanced reading in numerical algorithms using PERL and the use of PDL.

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