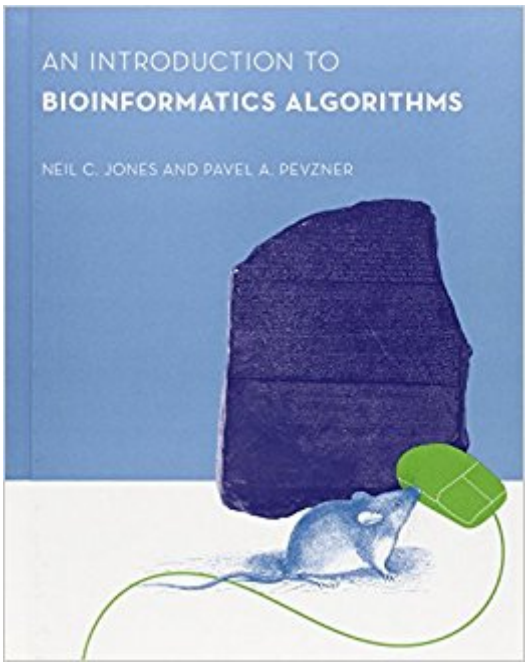
An Introduction To Bioinformatics Algorithms (Computational Molecular Biology)



Synopsis

This introductory text offers a clear exposition of the algorithmic principles driving advances in bioinformatics. Accessible to students in both biology and computer science, it strikes a unique balance between rigorous mathematics and practical techniques, emphasizing the ideas underlying algorithms rather than offering a collection of apparently unrelated problems.The book introduces biological and algorithmic ideas together, linking issues in computer science to biology and thus capturing the interest of students in both subjects. It demonstrates that relatively few design techniques can be used to solve a large number of practical problems in biology, and presents this material intuitively.An Introduction to Bioinformatics Algorithms is one of the first books on bioinformatics that can be used by students at an undergraduate level. It includes a dual table of contents, organized by algorithmic idea and biological idea; discussions of biologically relevant problems, including a detailed problem formulation and one or more solutions for each; and brief biographical sketches of leading figures in the field. These interesting vignettes offer students a glimpse of the inspirations and motivations for real work in bioinformatics, making the concepts presented in the text more concrete and the techniques more approachable.PowerPoint presentations, practical bioinformatics problems, sample code, diagrams, demonstrations, and other materials can be found at the Author’s website.

Book Information

Series: Computational Molecular Biology
Hardcover: 435 pages
Publisher: The MIT Press; 1 edition (August 6, 2004)
Language: English
ISBN-10: 0262101068
ISBN-13: 978-0262101066
Product Dimensions: 7 x 0.8 x 9 inches
Shipping Weight: 1.9 pounds (View shipping rates and policies)
Average Customer Review: 4.7 out of 5 stars 19 customer reviews
Best Sellers Rank: #258,725 in Books (See Top 100 in Books) #69 inÂ Books > Computers & Technology > Computer Science > Bioinformatics #81 inÂ Books > Textbooks > Computer Science > Algorithms #194 inÂ Books > Computers & Technology > Programming > Algorithms

Customer Reviews

Neil C. Jones is a Ph.D. candidate in the Department of Computer Science and Engineering at the

University of California, San Diego.

this is a great book

It’s a good book to start with if you want to step into Bioinformatics.It gives a brief introduction to biology background and gives algorithm examples.Myself is a Computer Science student, found it easy to learn. Both biology knowledge and algorithms.

This book gives a broad overview of algorithmic methods used in bioinformatics. It is well writen and the mathematics needed to understand is undergraduate level. Reading this book makes appetite to apply these methods to problems or to dig deeper in the corresponding method.Overall, a very good book, and due to its introductory level, one can recommend to all people interested in bioinformatics from all disciplines.

This text is a must-have for any student or scientist that is serious about learning the fundamentals of bioinformatics.

received as advertised; in a great conditionIts a really good book, it covers pretty much all of the algorithm in the realm of bioinformatics. it also gives a bit of a biology background for engineers which is really helpful.Thanks

Este livro Ã© excelente por vÃ¡rias razÃƒÂ es. Entre elas posso citar o fato de estar totalmente voltado ao aprendizado por exemplos, sempre de forma a relacionar um problema computacional com um problema em bioinformÃ¡tica. Ã‰ um livro muito abrangente, cobre muito bem os tÃ picos relacionados a alinhamentos e compararÃƒÂ§ÃƒÂ es de sequÃƒÂªncias. Seu capÃ-tulo sobre Algoritmos com Grafos Ã© o meu preferido. O autor consegue passar as noÃƒÂ§ÃƒÂ es fundamentais com muita simplicidade, de forma que qualquer pessoa possa aprender num ritmo bem rÃ¡pido.

Ã¢Â Â¦there is no website that contains actual software!After all this is a bioinformatics book, I would expect something like a CD in the back or a website.Other than that, it’s a good book in bioinformatics.

Good reference

An Introduction to Bioinformatics Algorithms (Computational Molecular Biology) Current Topics in Computational Molecular Biology (Computational Molecular Biology) Algorithms in Bioinformatics: A Practical Introduction (Chapman & Hall/CRC Mathematical and Computational Biology) Biological Modeling and Simulation: A Survey of Practical Models, Algorithms, and Numerical Methods (Computational Molecular Biology) Bioinformatics Biocomputing and Perl: An Introduction to Bioinformatics Computing Skills and Practice Understanding Molecular Simulation, Second Edition: From Algorithms to Applications (Computational Science Series, Vol 1) Molecular Biology (WCB Cell & Molecular Biology) Granular Neural Networks, Pattern Recognition and Bioinformatics (Studies in Computational Intelligence) An Introduction to Systems Biology: Design Principles of Biological Circuits (Chapman & Hall/CRC Mathematical and Computational Biology) Ideals, Varieties, and Algorithms: An Introduction to Computational Algebraic Geometry and Commutative Algebra (Undergraduate Texts in Mathematics) Combinatorics of Genome Rearrangements (Computational Molecular Biology) Bioinformatics for Beginners: Genes, Genomes, Molecular Evolution, Databases and Analytical Tools Computational Chemistry: Introduction to the Theory and Applications of Molecular and Quantum Mechanics Computational Fluid Mechanics and Heat Transfer, Third Edition (Series in Computational and Physical Processes in Mechanics and Thermal Sciences) Theoretical Neuroscience: Computational and Mathematical Modeling of Neural Systems (Computational Neuroscience Series) Simulating Enzyme Reactivity: Computational Methods in Enzyme Catalysis (Theoretical and Computational Chemistry Series) Computational Approaches to Protein Dynamics: From Quantum to Coarse-Grained Methods (Series in Computational Biophysics) The Power of Computational Thinking:Games, Magic and Puzzles to Help You Become a Computational Thinker Bacteriophages: Methods and Protocols, Volume 2: Molecular and Applied Aspects (Methods in Molecular Biology) Inside the FFT Black Box: Serial and Parallel Fast Fourier Transform Algorithms (Computational Mathematics)