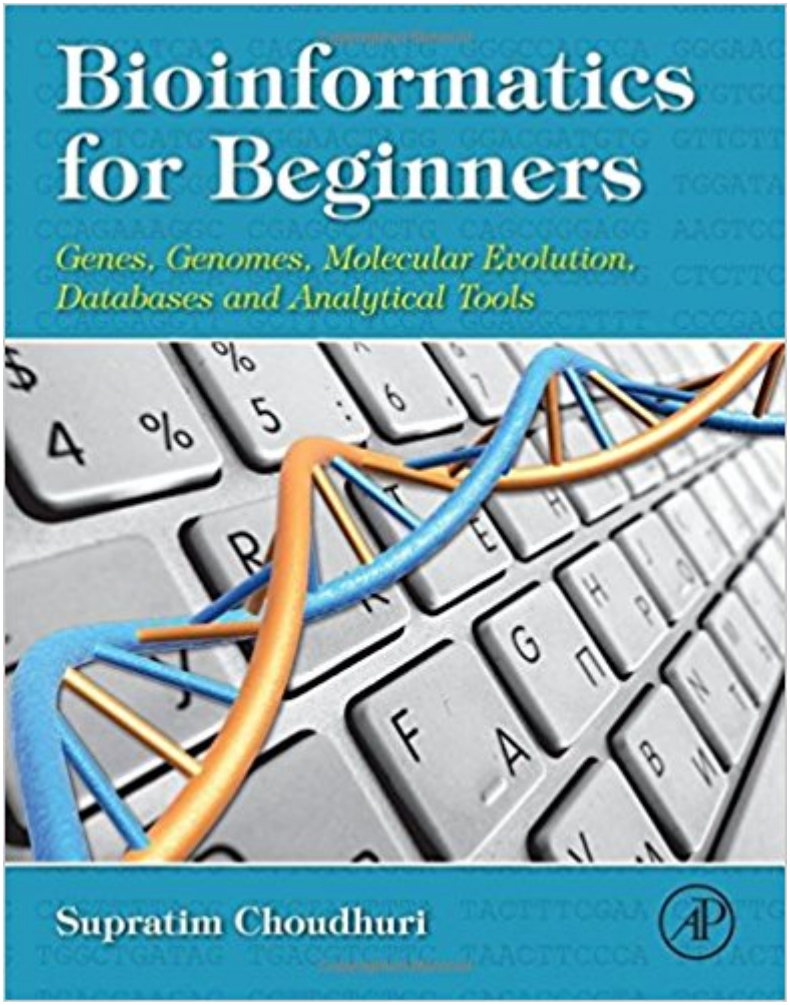
Bioinformatics For Beginners: Genes, Genomes, Molecular Evolution, Databases And Analytical Tools



Synopsis

Bioinformatics for Beginners: Genes, Genomes, Molecular Evolution, Databases and Analytical Tools provides a coherent and friendly treatment of bioinformatics for any student or scientist within biology who has not routinely performed bioinformatic analysis. The book discusses the relevant principles needed to understand the theoretical underpinnings of bioinformatic analysis and demonstrates, with examples, targeted analysis using freely available web-based software and publicly available databases. Eschewing non-essential information, the work focuses on principles and hands-on analysis, also pointing to further study options.Avoids non-essential coverage, yet fully describes the field for beginnersExplains the molecular basis of evolution to place bioinformatic analysis in biological contextProvides useful links to the vast resource of publicly available bioinformatic databases and analysis toolsContains over 100 figures that aid in concept discovery and illustration

Book Information

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Customer Reviews

Dr. Supratim Choudhuri is a toxicologist at the Center for Food Safety and Applied Nutrition, U.S. Food and Drug Administration. Dr. Choudhuri has extensively published in the fields of molecular toxicology, metabolism, genomics, and epigenetics. He has previously edited a book, titled Genomics: Fundamentals and Applications with a colleague Dr. David B. Carlson.

This is a good, technical introduction to the field. I used this as a CS guy going into a bioinformatics

role and it was really useful for getting my bearings.

This book is not coherently written, and one can see this immediately in the first chapter (Section 1.2, for example) where the author states that DNA is the universal genetic material. The subsequent paragraphs meander off-topic and discuss RNA viruses. This happens again and again throughout.Also, editing for the Kindle book is haphazard and distracting. Many pictures are simply too small to see. Tables are not formatted well. I guess I am spoiled by some of the wonderful textbooks that I've purchased on Kindle where everything (illustrations, tables, narrative) fit perfectly.

Free web-based computational tools were not available when I was a bench scientist. I used proprietary software, such as the Wisconsin package for sequence formatting, editing, mapping, alignment and comparative analyses of cDNA and protein sequences. New and better bioinformatics tools are now available for public use since the sequencing of the human genome. Examples and instructions on how to use these tools are included in the book.However, the book is not only about free tools and databases, and how to use them. The contents of the book are organized into sections that include background information about genes and genomes, molecular evolution and genomic technologies. These sections are well written and are easy to read and understand since terms have been defined well and concepts are explained in plain language. I particularly enjoyed reading the molecular evolution section, as this field appears to be the main beneficiary of the advances made in sequencing of the genome of various species. The book makes references to the history of a topic under discussion, including sometimes on how the algorithms were developed. By doing so, the author fosters an interest in the subject and lays the ground for further discussion of the topic. Original and discerning illustrations are the other features of the book that a reader would appreciate.Moreover, the contents of the book and presentations have benefited from the authorÃ¢Â Âˆs background in academia, research and regulatory experiences. I believe the book would be appropriate for a wider audience, and would have relevance to students, professionals and the curious public (The Angelina JolieÃ¢Â Â™s) that would like to learn about the advances in molecular evolution and medicine in this age of genomic revolution.In terms of the online references in the book, I sometimes encountered changes in the user interface that made using the screenshots and step by step instructions in the book impracticable. An updatable website maintained by the publisher could accompany the book to solve these issues.

Very thorough overview of the subject is given in the book. Someone like me who came from a Theoretical Physics background, can learn so much that it can raise interest to do research in the area.

Excelent!!!

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