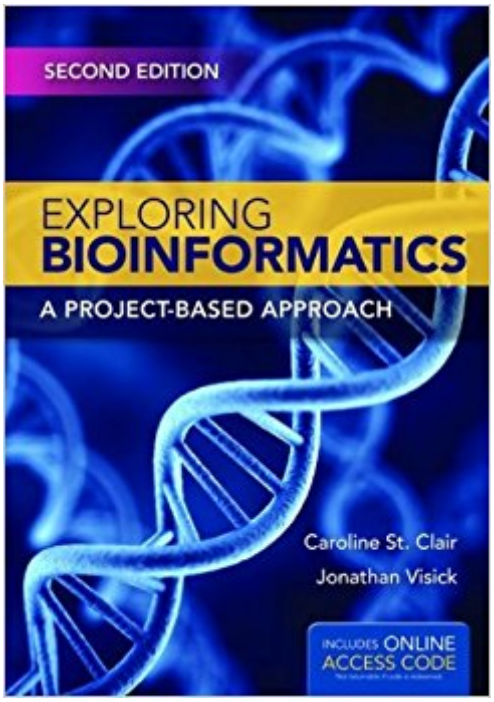
Exploring Bioinformatics: A Project-Based Approach



Synopsis

Thoroughly revised and updated, Exploring Bioinformatics: A Project-Based Approach, Second Edition is intended for an introductory course in bioinformatics at the undergraduate level. Through hands-on projects, students are introduced to current biological problems and then explore and develop bioinformatic solutions to these issues. Each chapter presents a key problem, provides basic biological concepts, introduces computational techniques to address the problem, and guides students through the use of existing web-based tools and software solutions. This progression prepares students to tackle the On-Your-Own Project, where they develop their own software solutions. Topics such as antibiotic resistance, genetic disease, and genome sequencing provide context and relevance to capture student interest. With a focus on developing students' problem-solving skills, the Second Edition of Exploring Bioinformatics: A Project-Based Approach is a contemporary and comprehensive introduction to this rapidly growing field. New to the thoroughly updated Second Edition: Ã¢â ¬Â¢Offers a flexible approach to understanding key bioinformatics algorithms with exercises that can be used with or without programming. Ã¢â ¬Â¢For programming courses, pseudocode allows students to implement algorithms in any desired programming language. Ã¢â ¬Â¢Includes more substantive web-based projects for a more comprehensive, hands-on introduction to bioinformatics in non-programming courses. Ã¢â ¬Â¢Contains updated material reflecting changes in how bioinformatics is used: next-generation sequencing, metagenomic analysis, statistical methods, etc. Ã¢â ¬Â¢Contains more instructive and relevant case studies as well as more cohesive connections between the case studies and the exercises.

Book Information

Paperback: 300 pages
Publisher: Jones & Bartlett Learning; 2 edition (December 26, 2013)
Language: English
ISBN-10: 1284034240
ISBN-13: 978-1284034240
Product Dimensions: 7 x 0.7 x 9.9 inches
Shipping Weight: 1.2 pounds (View shipping rates and policies)
Average Customer Review: 3.1 out of 5 stars 3 customer reviews
Best Sellers Rank: #141,477 in Books (See Top 100 in Books) #32 inÃ Â Books > Computers & Technology > Computer Science > Bioinformatics #1644 inÃ Â Books > Textbooks > Science & Mathematics > Biology & Life Sciences #2434 inÃ Â Books > Textbooks > Computer Science

Customer Reviews

Disclaimer: I was asked (as a person with 12-years experience in bioinformatics) to review this book for a colleague as a favor. This is the exact commentary I’m giving to her.First off, do NOT buy this book if you want to self-teach yourself bioinformatics!!This is a lab manual, not a textbook!Comments:1. This is not a textbook, but more of a laboratory manual. While I applaud the individual chapter projects, the explanations as to the bioinformatics being used are very limited, and in some cases, difficult to interpret. Heck, I do this stuff all the time and even I was getting confused. I believe that this book can be used in conjunction with classroom assistance, but not for standalone learning.2. There are instances where comments are made regarding the "instructor resources". Well, if you are like me and not "an instructor", then you miss out on whatever the instructor has for available information and you are stuck. Additionally, there were errors in the book, but the website appears to have caught none of them.3. If you have read any book on computing, it’s not unrealistic to see "click sequences", such as "click->click->click...", where you click from one page to another to get you to some page. This book does not do any of this. You are given a set of instructions that take you to (what you hope) is the page you are supposed to land on, but because there are absolutely no screenshots in the book at all, in some cases, I was unsure if I was on the page I was supposed to be on.4. And, when you get to the page you think you should be on, they ask questions. Be prepared to not look in the book for many answers. Again, I expect this in a lab manual with an associated textbook. However, with absolutely no answer key to selected questions (especially in questions asked in the body of the text relating to some sort of search), you have no idea if the answers you come up with are correct or not. Namely, you will associated references (read: the internet or another book or specific bioinformatic software resources).5. Have some knowledge of molecular biology before you read the book. I’m not sure the target audience, but I found it odd that important information is included at the end of the chapter rather than the beginning. Maybe that’s just me.The projects are good though, but the interpretation of the specific bioinformatics output is totally lame. Why just run something, get output and then just "leave you there to fend for yourself"?? To me, for a book that costs over $150, that’s totally unacceptable.Conclusion: Not a good book overall, though it does have it’s moments. If you are interested in bioinformatics and want to learn the web components, use Bioinformatics for Dummies. Unfortunately, as all things bioinfo, it’s dated (from 2007) and you need to do a bit of work to get everything working (most stuff does), but the explanations are first class. And, it’s 1/5 the price. (PS: There is a 3rd edition coming soon, or so I’m told). Also, bioinfo is still pretty much perl-centric, though you do find python being used more. This book uses pseudocode, which is not the way to

learn (you miss out on specific bioinfo packages like bioperl), which is kind of useful to have your hands around.Joe T, PhD, Virology

The code that comes with the book is a single use, so if you rent, you have to purchase a new access code from the publisher, which currently is twenty six dollars.

shipped fast and arrived as expected

Exploring Bioinformatics: A Project-Based Approach Bioinformatics Biocomputing and Perl: An Introduction to Bioinformatics Computing Skills and Practice Project Management: Secrets Successful Project Managers Already Know About: A Beginner's Guide to Project Management, nailing the interview, and essential skills to manage a project like a Pro Agile Project Management: QuickStart Guide - The Simplified Beginners Guide To Agile Project Management (Agile Project Management, Agile Software Development, Agile Development, Scrum) Exploring Bioinformatics by Caroline St Clair (2014-02-06) Handbook of Biblical Hebrew: An Inductive Approach Based on the Hebrew Text of Esther (An Inductive Approach Based on the Hebrew Text of Esther, 2 Vols. in 1) Difficult Decisions in Vascular Surgery: An Evidence-Based Approach (Difficult Decisions in Surgery: An Evidence-Based Approach) Bioinformatics: Sequence, Structure and Databanks: A Practical Approach Active Physics [A Project-Based Inquiry Approach, Physics for All] by Arthur Eisenkraft, Ph.D. [It's About Time,2010] [Hardcover] 3rd Edition Clinical Practice of Forensic Neuropsychology: An Evidence-Based Approach (Evidence-Based Practice in Neuropsychology) Bioinformatics and Functional Genomics Bioinformatics For Dummies Discovering Genomics, Proteomics and Bioinformatics (2nd Edition) Understanding Bioinformatics Concepts in Bioinformatics and Genomics An Introduction to Bioinformatics Algorithms (Computational Molecular Biology) Bioinformatics Data Skills: Reproducible and Robust Research with Open Source Tools Python For Bioinformatics (Series in Biomedical Informatics) Bioinformatics: Sequence and Genome Analysis Granular Neural Networks, Pattern Recognition and Bioinformatics (Studies in Computational Intelligence)