Fundamental Concepts of Bioinformatics

Dan E. Krane, Michael L. Raymer
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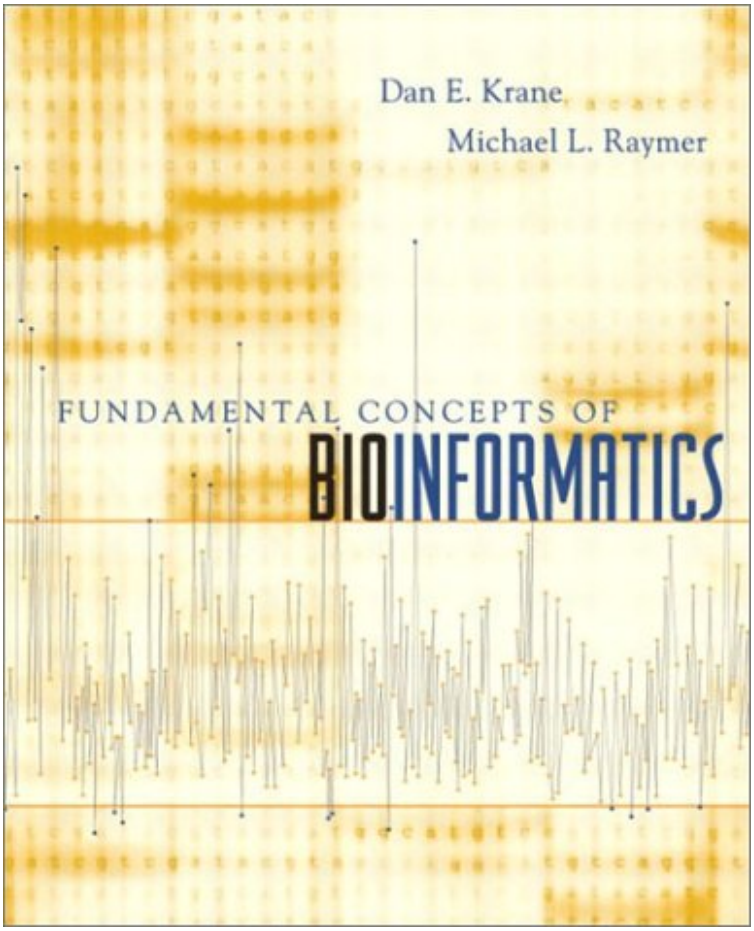

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Dan E. Krane, Michael L. Raymer : Fundamental Concepts of Bioinformatics before purchasing it in order to gage whether or not it would be worth my time, and all praised Fundamental Concepts of Bioinformatics:

0 of 2 people found the following review helpful. awesomeBy Malaquias RosaThis product came in really fast, and it was new.I love this book. Only those in biotechnology would appreciate this textbook.0 of 4 people found the following review helpful. Not about the book's contentBy Ghadah FakhryI paid 141 $ to received a photo-copied version of the book with all - of course- black and white figures and graphs! I am from Egypt, and returning the book is a major hassle so I've just accepted my loss..I was really shocked when I received the book, and it made me think many times before buying any books again in fear of this happening again.This was really disappointing.18 of 23 people found the following review helpful. good undergrad/opening textBy kewlkingFeaturesFirst bioinformatics primer for undergraduates. Personable writing style and numerous analogies make this text accessible to undergraduates.Focus on fundamentally important algorithms at the core of bioinformatics.Easy-to-do "paper and pencil" calculations make fundamental algorithms unintimidating for biology students and accessible to students with

limited experience in computer programming.Combined expertise (biology and computer science) of author team ensures an integrated approach and an appreciation for the biology and computer science tools and perspectives.End-of-Chapter summaries tie together key concepts and provide real-world examples of the algorithms presented.Detailed solutions to selected text questions are provided in the back of the text so students can check their answers.Annotated Reading Material sections at the end of each chapter direct students to additional resources for further explanation.Questions and problems at the end of each chapter help students apply their understanding of the material.ContentsMOLECULAR BIOLOGY AND BIOLOGICAL CHEMISTRY.DATA SEARCHES AND PAIRWISE ALIGNMENTS.SUBSTITUTION PATTERNS.DISTANCE-BASED METHODS OF PHYLOGENETICS.CHARACTER-BASED APPROACHES TO PHYLOGENETICS.GENOMICS AND GENE RECOGNITION.PROTEIN FOLDING.PROTEOMICS.

Fundamental Concepts of Bioinformatics is the first book co-authored by a biologist and computer scientist that is specifically designed to make bioinformatics accessible and provide readers for more advanced work. Readers learn what programs are available for analyzing data, how to understand the basic algorithms that underlie these programs, what bioinformatic research is like, and other basic concepts. Information flows easily from one topic to the next, with enough detail to support the major concepts without overwhelming readers. Problems at the end of each chapter use real data to help readers apply what they have learned so they know how to critically evaluate results from both a statistical and biological point of view.

From the Back Cover"Fundamental Concepts of Bioinformatics" is the first book co-authored by a biologist and computer scientist that is specifically designed to make bioinformatics accessible and provide readers for more advanced work. Readers learn what programs are available for analyzing data, how to understand the basic algorithms that underlie these programs, what bioinformatic research is like, and other basic concepts. Information flows easily from one topic to the next, with enough detail to support the major concepts without overwhelming readers. Problems at the end of each chapter use real data to help readers apply what they have learned so they know how to critically evaluate results from both a statistical and biological point of view.About the AuthorFor Elaine N. Marieb, taking the student's perspective into account has always been an integral part of her teaching style. Dr. Marieb began her teaching career at Springfield College, where she taught anatomy and physiology to physical education majors. She then joined the faculty of the Biological Science Division of Holyoke Community College in 1969 after receiving her Ph.D. in zoology from the University of Massachusetts at Amherst. While teaching at Holyoke Community College, where many of her students were pursuing nursing degrees, she developed a desire to better understand the relationship between the scientific study of the human body and the clinical aspects of the nursing practice. To that end, while continuing to teach full time, Dr. Marieb pursued her nursing education, which culminated in a Master of Science degree with a clinical specialization in gerontology from the University of Massachusetts. It is this experience, along with stories from the field-including those of former students, now in health careers-that has informed the development of the unique perspective and accessibility for which her texts and laboratory manuals are known. In her ongoing commitment to students and her realization of the challenges they face, Dr. Marieb has given generously to provide opportunities for students to further their education. She contributes to the New Directions, New Careers Program at Holyoke Community College by providing several full-tuition scholarships each year for women returning to college after a hiatus or who are attending college for the first time and would otherwise be unable to continue with their studies without financial support. She funds the E. N. MariebScience Research Awards at Mount Holyoke College, which promotes research by undergraduate science majors, and generously contributed to the University of Massachusetts at Amherst where she provided funding for reconstruction and instrumentation of a cutting-edge cytology research laboratory that bears her name. In 1994, Dr. Marieb received the Benefactor Award from the National Council for Resource Development, American Association of Community Colleges, which recognizes her ongoing sponsorship of student scholarships, faculty teaching awards, and other academic contributions to Holyoke Community College. In May 2000, the science building at Holyoke Community College was named in her honor. Additionally, while actively engaged as an author, Dr. Marieb serves as a consultant for the Benjamin Cummings "InterActive Physiology" CD-ROM series, and is an active member of the Human Anatomy and Physiology Society (HAPS). "Anatomy Physiology," Second Edition is the latest expression of her commitment to student needs in their pursuit of the study of AP.