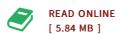




Algorithmic Aspects of Bioinformatics

By Hans-Joachim Böckenhauer

Springer-Verlag Gmbh Apr 2007, 2007. Buch. Condition: Neu. Neuware - Advances in bioinformatics and systems biology require improved computational methods for analyzing data, while progress in molecular biology is in turn influencing the development of computer science methods. This book introduces some key problems in bioinformatics, discusses the models used to formally describe these problems, and analyzes the algorithmic approaches used to solve them. After introducing the basics of molecular biology and algorithmics, Part I explains string algorithms and alignments; Part II details the field of physical mapping and DNA sequencing; and Part III examines the application of algorithmics to the analysis of biological data. Exciting application examples include predicting the spatial structure of proteins, and computing haplotypes from genotype data. This book describes topics in detail and presents formal models in a mathematically precise, yet intuitive manner, with many figures and chapter summaries, detailed derivations, and examples. It is well suited as an introduction into the field of bioinformatics, and will benefit students and lecturers in bioinformatics and algorithmics, while also offering practitioners an update on current research topics. 396 pp. Englisch.



Reviews

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