



Structural Bioinformatics: An Algorithmic Approach (Chapman & Hall/CRC Mathematical and Computational Biology)

Forbes J. Burkowski

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The Beauty of Protein Structures and the Mathematics behind Structural Bioinformatics

Providing the framework for a one-semester undergraduate course, **Structural Bioinformatics: An Algorithmic Approach** shows how to apply key algorithms to solve problems related to macromolecular structure.

Helps Students Go Further in Their Study of Structural Biology

Following some introductory material in the first few chapters, the text solves the longest common subsequence problem using dynamic programming and explains the science models for the Nussinov and MFOLD algorithms. It then reviews sequence alignment, along with the basic mathematical calculations needed for measuring the geometric properties of macromolecules. After looking at how coordinate transformations facilitate the translation and rotation of molecules in a 3D space, the author introduces structural comparison techniques, superposition algorithms, and algorithms that compare relationships within a protein. The final chapter explores how regression and classification are becoming more useful in protein analysis and drug design.

At the Crossroads of Biology, Mathematics, and Computer Science

Connecting biology, mathematics, and computer science, this practical text presents various bioinformatics topics and problems within a scientific methodology that emphasizes nature (the source of empirical observations), science (the mathematical modeling of the natural process), and computation (the science of calculating predictions and mathematical objects based on mathematical models).

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Spent a free the perfect time to be fun activity to accomplish! A lot of people spent their leisure time with their family, or their own friends. Usually they carrying out activity like watching television, going to beach, or picnic from the park. They actually doing ditto every week. Do you feel it? Do you want to something different to fill your current free time/ holiday? Could be reading a book may be option to fill your totally free time/ holiday. The first thing that you'll ask may be what kinds of e-book that you should read. If you want to test look for book, may be the guide untitled Structural Bioinformatics: An Algorithmic Approach (Chapman & Hall/CRC Mathematical and Computational Biology) can be very good book to read. May be it is usually best activity to you.

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