INTELLIGENT BIOINFORMATICS

The application of artificial intelligence techniques to bioinformatics problems

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Bioinformatics, the cross-disciplinary union of computer science and biology, is contributing to some of the most important advances in medicine and biology. At the forefront of this exciting new subject are techniques known as artificial intelligence which are inspired by the way in which nature – from genes and cells to organisms including human beings – solves the problems it faces. This book provides a unique insight into the complex problems of bioinformatics and the innovative solutions which make up 'Intelligent Bioinformatics'.

The book requires only rudimentary knowledge of biology, bioinformatics or computer science and is aimed at interested readers regardless of discipline. Three introductory chapters on biology, bioinformatics and the complexities of search and optimization equip the reader with the necessary knowledge to proceed through the remaining eight chapters, each of which is dedicated to an intelligent technique in bioinformatics. Each of these self-contained chapters contains a detailed description of the technique, application guidelines, and a history of the technique along with the latest application to problems in bioinformatics. The book also contains many links to software and information available on the internet, in academic journals and beyond, making it an indispensable reference for the *intelligent bioinformatician.*

The book will appeal to all postgraduate students and researchers in bioinformatics and genomics as well as to computer scientists interested in these disciplines, and all natural scientists with large data sets to analyze.

Cover design by Dan Jubb

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ISBN 0-470-02175-6

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