

Integrative Cluster Analysis in Bioinformatics

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Clustering techniques are increasingly being put to use in the analysis of high-throughput biological datasets. Novel computational techniques to analyse high throughput data in the form of sequences, gene and protein expressions, pathways, and images are becoming vital for understanding diseases and future drug discovery.

This book details the complete pathway of cluster analysis, from the basics of molecular biology to the generation of biological knowledge. The book also presents the latest clustering methods and clustering validation, thereby offering the reader a comprehensive review of clustering analysis in bioinformatics from the fundamentals through to state-of-the-art techniques and applications.

Key features:

- Offers a contemporary review of clustering methods and applications in the field of bioinformatics, with particular emphasis on gene expression analysis
- Provides an excellent introduction to molecular biology with computer scientists and information engineering researchers in mind, laying out the basic biological knowledge behind the application of clustering analysis techniques in bioinformatics
- Explains the structure and properties of many types of high-throughput data commonly used in biological studies
- Discusses how clustering methods and their potential can be used to enhance the pace of biological discoveries in the field
- Includes a companion website hosting a selection of publicly available datasets

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