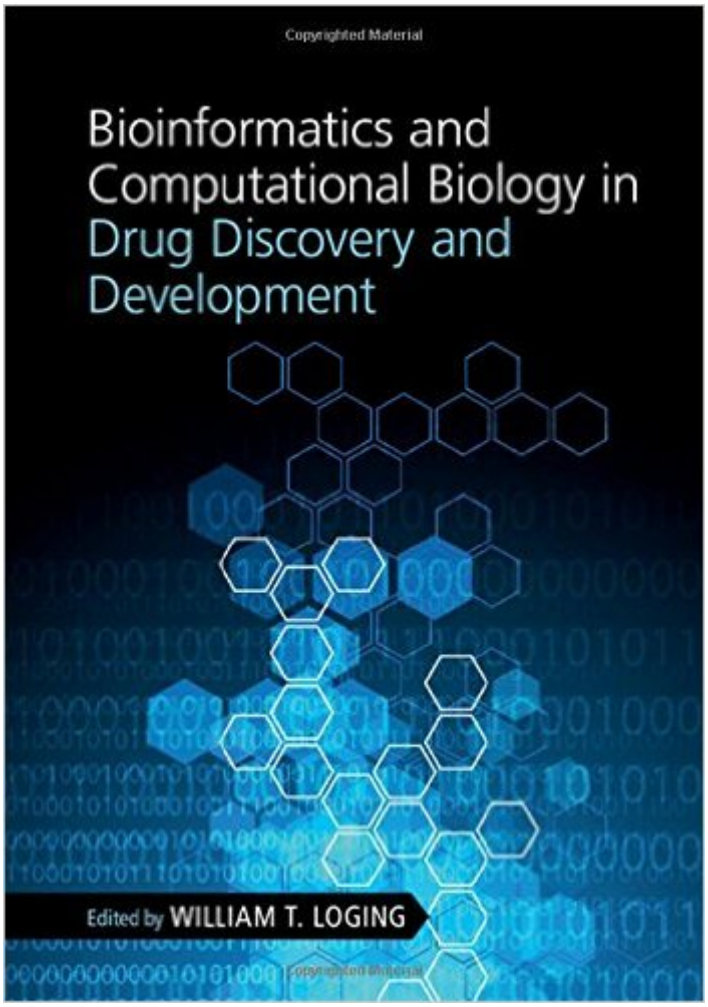
Bioinformatics And Computational Biology In Drug Discovery And Development



Synopsis

Computational biology drives discovery through its use of high-throughput informatics approaches. This book provides a road map of the current drug development process and how computational biology approaches play a critical role across the entire drug discovery pipeline. Through the use of previously unpublished, real-life case studies the impact of a range of computational approaches are discussed at various phases of the pipeline. Additionally, a focus section provides innovative visualisation approaches, from both the drug discovery process as well as from other fields that utilise large datasets, recognising the increasing use of such technology. Serving the needs of early career and more experienced scientists, this up-to-date reference provides an essential introduction to the process and background of drug discovery, highlighting how computational researchers can contribute to that pipeline.

Book Information

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Customer Reviews

This book brings the latest perspective on an important area of applied bioinformatics and computational biology. Academic work seems sometimes detached from real-world application. Where are all the computer-designed drugs that were promised? This book shows, however, that bioinformatics and comp bio are already part of the pharmaceutical everyday life in ways small and large, from data visualization to text mining to drug target identification. The different chapters of the book cover these contributions in detail and for anyone who is interested in learning about them.

I’ve worked as a computational biologist in the pharma industry for around 7 years, and I was excited to hear of the publication of this book. I think it is a great introduction to the field - especially for scientists who might be studying the subject and are interested to learn about how the drug discovery process works. The introductory chapters will help new scientists get up to date quickly with the terminology and goals of the process.I especially enjoyed the chapters on translational biomarkers by Jonathan Philips, and particularly the appendix on additional knowledge-based analysis approaches by Raul Rodriguez-Esteban, which provided one of the best overviews of text mining in pharma that I’ve had the pleasure of reading. The book itself is well-organized, and a relatively fast read, although going through the references on topics of interest can provide a good deal more depth. It is important to understand that it is NOT a complete "how-to" manual - you’ll have to go through additional papers and training if you’d like to be a functioning computational biology. But, for putting all these tools into context, the book does a superior job of providing a great framework.

This is a good overview of bioinformatics and computational biology as it relates to the pharmaceutical industry. The language is clear and concise, and the most important topics are covered in the drug discovery pipeline from early exploratory work to the late phase clinic and beyond. The contents of the book have clearly benefited from the authorsâ ™ background in industry research and development. It would be extremely helpful to anyone that is contemplating entering the field for example any student soon to graduate or any bioinformatics class that would like to broaden its focus beyond purely academic exercises and embrace real-world issues faced by leaders in the industry.

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