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Released: June 2012

Computational Knowledge Discovery for Bioinformatics Research

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Computational Knowledge Discovery for Bioinformatics Research



Xiao Li Li & See Kiong Ng

ISBN: 9781466617858; © 2012; 463 pp. Print: US \$245.00 | Perpetual: US \$370.00 | Print + Perpetual: US \$490.00

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Biological and clinical studies provide valuable insight into the causes and potential cures of disease. Using statistics and data mining and other computational approaches, bioinformatics researchers can provide the medical community with ground-breaking discoveries that change how we perceive and treat these illnesses.

Computational Knowledge Discovery for Bioinformatics Research discusses the most significant research and latest practices in computational knowledge discovery approaches to bioinformatics in a cross-disciplinary manner which is useful for researchers, practitioners, academicians, mathematicians, statisticians, and computer scientists involved in the many facets of bioinformatics. This book aims to increase the awareness of interesting and challenging biomedical problems and to inspire new knowledge discovery solutions.

Topics Covered:

- Clustering Techniques
- Protein Interaction Networks
- Bioinformatics databases
- Biological data management
- Biological knowledge discovery
- · Clinical research informatics
- Gene expression analysis
- Protein/RNA structure prediction
- Translational bioinformatics
- Graph Mining

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Xiao-Li Li is currently a principal investigator in the Data Mining Department at the Institute for Infocomm Research, A*Star. He also holds an appointment of adjunct assistant professor in SCE, NTU. Xiao-Li received his PhD degree in computer science from Chinese Academy of Sciences (2001) and was then with National University of Singapore (School of Computing/Singapore-MIT Alliance) as a research fellow from 2001 to 2004. His research interests include bioinformatics, data mining and machine learning. He has been serving as a member of technical program committees in numerous bioinformatics (a book editor for *Biological Data Mining in Protein Interaction Networks*, PC members for IEEE BIBE, IEEE BIBM, etc.), data mining (including a PC member in leading data mining conference KDD, CIKM and SDM) and machine learning related conferences (a session chair of PKDD/ECML). He has also served as an editorial board member for *International Journal of Data Analysis Techniques and Strategies (IJDATS), Journal of Information Technology Research (JITR)* and other IGI Global editorial advisory review boards. In 2005, he received best paper award in the 16th International Conference on genome informatics (GIW 2005). In 2008, he received the best poster award in the 12th Annual International Conference Research in computational molecular biology (RECOMB 2008).

To learn more about Dr. Xiao-Li Li, please visit his Web page: http://www1.i2r.a-star.edu.sg/~xlli/.



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