

Bioinformatics Algorithms

Design and Implementation in Python

Bioinformatics Algorithms: Design and Implementation in Python provides a comprehensive look into many of the most important bioinformatics problems, putting forward the best algorithms and showing how to implement them. It presents new features and ideas on the use of the Python programming language and its algorithms, which is quickly becoming the most popular language in the bioinformatics field. Readers will find the tools they need to improve their knowledge and skills with regard to algorithm development and implementation. They will also uncover prototypes of bioinformatics applications that demonstrate the main principles underlying real world applications. For each topic, the necessary background knowledge is provided for a better understanding of the material from the ground up.

Bioinformatics Algorithms is an essential companion for students and professionals who are pursuing new ideas and approaches in creating and using algorithms in Python.

Key Features

- Presents an ideal text for bioinformatics students with little to no knowledge of computer programming
- Based on over 12 years of pedagogical materials used by the authors in their own classrooms
- Features a companion website with downloadable codes and runnable examples

About the Authors

Miguel Rocha is an Associate Professor at the University of Minho (Portugal), where he teaches in the Informatics Department and has a senior researcher position in the Centre of Biological Engineering. Since 2007, he has been the Director and founder of the Master in Bioinformatics program, teaching and coordinating curricular units related to bioinformatics algorithms and tools, data analysis and machine learning. His research is mainly devoted to bioinformatics subjects, including the development of tools and algorithms for metabolic modelling and omics data analysis.

Pedro G. Ferreira is an Assistant Researcher at Ipatimup/i3S (Portugal). He develops research on computational biology, specifically in the fields of cancer genomics and population genomics. He collaborated with several research groups and has been involved in different international consortia including ICGC-CLL, GEUVADIS or GTEx. He has intensive training in bioinformatics and experience in genomics start-up environment where he developed information systems for personal genomics data interpretation.



ACADEMIC PRESS

An imprint of Elsevier
elsevier.com/books-and-journals

ISBN 978-0-12-812520-5



9 780128 125205