

1. Record Nr.	UNINA9910734837203321
Autore	Rocha Miguel
Titolo	Practical Applications of Computational Biology and Bioinformatics, 17th International Conference (PACBB 2023) // edited by Miguel Rocha, Florentino Fdez-Riverola, Mohd Saberi Mohamad, Ana Belén Gil-González
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2023
ISBN	9783031380792 3031380797
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (113 pages)
Collana	Lecture Notes in Networks and Systems, , 2367-3389 ; ; 743
Altri autori (Persone)	Fdez-RiverolaFlorentino Mohd Saberi Mohamad GilAna Belen
Disciplina	006.3
Soggetti	Computational intelligence Artificial intelligence Bioinformatics Computational Intelligence Artificial Intelligence
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Intro -- Preface -- Organization -- Contents -- Main Track -- The Impact of Schizophrenia Misdiagnosis Rates on Machine Learning Models Performance -- 1 Introduction -- 2 Methods -- 2.1 Data Description and Quality Control -- 2.2 Genotype-Phenotype Association -- 2.3 Machine Learning Models -- 2.4 Over-Representation Analysis -- 3 Results -- 3.1 Association Test -- 3.2 Test on Train Data -- 3.3 Filtering of Discordant Samples -- 3.4 Classification Model -- 4 Discussion -- 5 Conclusion -- References -- Deep Learning and Transformers in MHC-Peptide Binding and Presentation Towards Personalized Vaccines in Cancer Immunology: A Brief Review -- 1 Introduction -- 2 Methodology -- 3 Input Encoding -- 4 Deep Learning and Transformers Methods -- 4.1 Deep Learning -- 4.2 Transformers -- 5 Discussion -- References -- Auto-phylo: A Pipeline Maker for Phylogenetic Studies -- 1 Introduction -- 2

Material and Methods -- 3 Results -- 3.1 Auto-phylo Modules -- 3.2 Setting up an Auto-phylo Pipeline -- 3.3 Bacterial AOs May Have a Function Similar to Animal GULOs -- 3.4 Identification of Bacterial Species Groups that Have AOs Closely Related to Animal GULOs -- 4 Conclusion -- References -- Feature Selection Methods Comparison: Logistic Regression-Based Algorithm and Neural Network Tools -- 1 Introduction -- 1.1 Classification Problem -- 1.2 Feature Selection Methods -- 2 Methods and Materials -- 2.1 Logistic Regression-Based Algorithm -- 2.2 Neural Networks Approach -- 2.3 Materials -- 3 Results -- 3.1 Logistic Regression-Based Algorithm -- 3.2 Neural Networks Approach -- 3.3 Results Comparison -- 4 Conclusions -- References -- A New GIMME-Based Heuristic for Compartmentalised Transcriptomics Data Integration -- 1 Introduction -- 2 Methods -- 2.1 Flux Balance Analysis -- 2.2 Gene Inactivity Moderated by Metabolism and Expression. 2.3 Implementation of the Proposed Method -- 2.4 The Model -- 2.5 The Dataset -- 3 Results -- 3.1 Case Studies -- 4 Discussion and Conclusions -- References -- Identifying Heat-Resilient Corals Using Machine Learning and Microbiome -- 1 Introduction -- 2 Related Work -- 3 Methods -- 3.1 Pipeline -- 3.2 Experimental Setup -- 4 Results -- 5 Analysis and Discussion -- 6 Conclusion -- References -- Machine Learning Based Screening Tool for Alzheimer's Disease via Gut Microbiome -- 1 Introduction -- 2 Related Work -- 3 Methodology -- 4 Experimental Analysis -- 4.1 Experimental Settings -- 4.2 Experimental Results -- 4.3 Discussion -- 5 Conclusion and Future Work -- References -- Progressive Multiple Sequence Alignment for COVID-19 Mutation Identification via Deep Reinforcement Learning -- 1 Introduction -- 2 Methodology -- 2.1 Progressive Deep Reinforcement Learning -- 2.2 Sequence Alignment -- 3 Result and Discussion -- 3.1 Analysis of Alignment Results -- 4 Conclusion -- References -- Analysis of the Confidence in the Prediction of the Protein Folding by Artificial Intelligence -- 1 Introduction -- 2 Metrics and Scores -- 3 Material and Methods -- 4 Results -- 5 Discussion -- 6 Conclusions and Future Work -- References -- Doctoral Consortium -- Neoantigen Detection Using Transformers and Transfer Learning in the Cancer Immunology Context -- 1 Introduction -- 2 Problem Statement -- 3 Related Work -- 4 Hypothesis -- 5 Proposal -- 6 Preliminary Results -- 7 Reflections -- References -- Author Index.

Sommario/riassunto

This book aims to promote the interaction among the scientific community to discuss applications of CS/AI with an interdisciplinary character, exploring the interactions between sub-areas of CS/AI, bioinformatics, chemoinformatics, and systems biology. The success of bioinformatics in recent years has been prompted by research in molecular biology and molecular medicine in several initiatives. This year's technical program presents both high quality and diversity, with contributions in well-established and evolving areas of research. The PACBB'23 technical program has selected 9 full papers in the main track and, as in past editions, it will be special issues in ranked journals. This symposium is organized by the LASI and Centro Algoritmi of the University of Minho (Portugal). The authors would like to thank all the contributing authors, the members of the program committee, national associations (AEPIA, APPIA), and the sponsors (AIR Institute).