

Machine Learning and Biological Data Analysis

Big data analytics
Translational data science
Feature selection
Predictive models

Dr. Márcio Dorn
Dr. Bruno César Feltes
Dra. Joice de Faria Poloni

The use of artificial intelligence, particularly machine learning, creates new opportunities for analyzing large volumes of biological data. These techniques allow identifying patterns that are often difficult to detect by other approaches and play a key role in understanding and solving complex problems in agriculture, livestock, extraction industry, health, and security. Machine Learning techniques can be used to analyze genomic data, seeking to identify new biomarkers with diagnostic or prognostic value, or as potential therapeutic targets in the treatment of diseases. Similarly, they can be utilized to detect SNPs and SNVs of interest in a population. These same techniques can be used, for example, in agriculture to discover unknown metabolic pathways and defense mechanisms and their regulation for the study of plant-pathogen interaction. It can also be applied to the discovery of genetic variants with potential applications in animal genetic improvement. Our laboratory has years of experience creating new algorithms for machine learning and using these techniques to different biological and biotechnological interest problems.



Prof. Dr. Márcio Dorn
mdorn@inf.ufrgs.br
(51) 3308 - 6824

Instituto de Informática
UFRGS
Av. Bento Gonçalves 9500
Prédio 43427 - CxP. 15064
Porto Alegre - RS - Brasil

Centro de Biotecnologia
UFRGS
Av. Bento Gonçalves 9500
Prédio 43421 - CxP. 15005
Porto Alegre - RS - Brasil

SBCB 
Structural Bioinformatics
and Computational
Biology Lab