Special Issue

Emerging Trends in Deep Learning for Data Mining in Bioinformatics Analysis

Message from the Guest Editors

In recent years, bioinformatics has transformed significantly due to the rapid accumulation of vast biological data, spanning genomics, protein structures, clinical records, and experimental results. This data surge offers unprecedented opportunities and challenges, demanding advanced computational methods to extract insights, predict biological phenomena, and support biomedical research. Deep learning, inspired by the human brain's neural networks, has emerged as a compelling solution. Deep learning possesses the remarkable ability to automatically learn hierarchical representations from raw data. In the realm of bioinformatics, deep learning excels at deciphering intricate patterns, predicting biological outcomes, and extracting vital insights from complex datasets. It has been adapted for various bioinformatics tasks, including genomic sequence analysis, protein structure prediction, biological network analysis, disease classification, and image analysis.

Keyword: deep learning; data mining; genomic data; proteomic data; biological networks

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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