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Artificial Neural Network Schedulers for Food Webs

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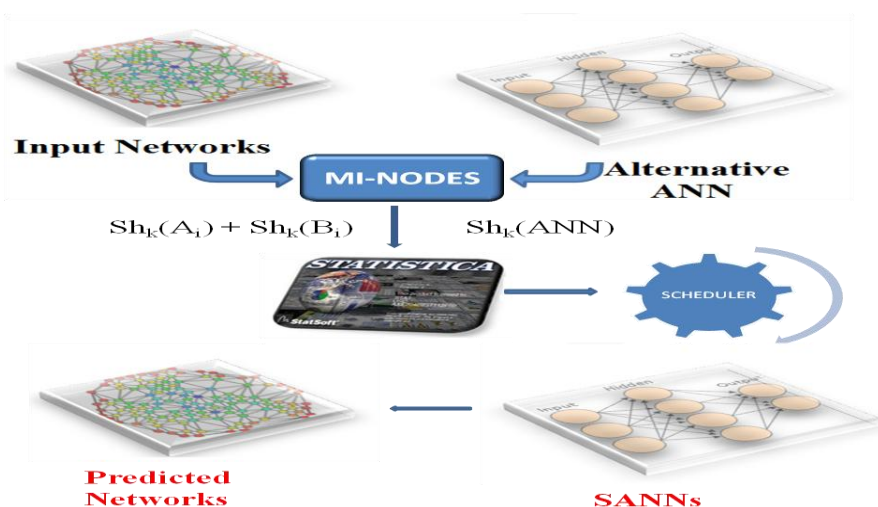
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Abstract: In this work, we introduce by the first time a new type of algorithm aimed to predict the more promising topology of one ANN to be trained in order to model a given dataset of complex system. In so doing, we can quantify topological (connectivity) information of both the complex networks under study and a set of ANNs trained using Shannon measures. Using information parameters as inputs, we developed one scheduler for 338050 outputs of 10 different ANNs for the respective 33805 pair of nodes in 73 Biological Networks. The overall accuracy of the SANN-HPC schedulers found was of >72% for Biological Networks; in training and validation series.

Keywords: Artificial Neural Networks, High Performance Computing, Biological Networks

Graphical Abstract:



References:

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