Modeling and Theoretical Analysis of Artificial Neural Networks for Life Sciences

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Message from the Guest Editor

Artificial neural networks are usually inspired by biological nervous systems, such as multilayer perceptron, feedback neural networks, convolutional neural networks, and spiking neural networks, which partly simulate the natural nervous system. Recently, artificial neural networks have been widely used in life sciences, and deep neural networks in particular have shown great vitality in many related fields, such as medical biology, bioinformatics, and computational biology. However, there are still some problems to be solved in artificial neural networks. First, more effective and powerful biomimetic neural networks are still required to address the application problems of life sciences. Second, theoretical analysis of existing artificial neural networks is urgently needed because most of them lack interpretability. Third, a systematic study of modeling methods in the applications of artificial neural networks is needed because designing neural networks for specific tasks is still expensive. This Special Issue focuses on new ideas, methods, and techniques in modeling and theoretical analysis of artificial neural networks for life sciences.

Special Issue

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Message from the Editor-in-Chief

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