Computational Intelligence and Neuroscience

Hindawi

Special Issue on

# Swarm Intelligence and Neural Network Schemes for Biomedical Data Evaluation

CALL FOR PAPERS

The occurrence rate of diseases in humans is gradually increasing. Early detection and treatment implementation is essential to cure a patient. Most of the acute and infectious diseases can be examined using a chosen signal method or an image-supported method. Accurate identification of the disease and its severity rate is essential during the planning and treatment implementation process. In the current era, considerable research is implemented to develop an automated disease detection (ADD) system. This enables support for doctors during the disease severity, identification stage, and treatment planning process.

Recent literature confirms that the ADD systems developed by employing swarm intelligence techniques and neural network (NN) schemes present improved results in various disease cases. Earlier work also suggests that the hybridization of the swarm intelligence approach with NN scheme improves disease deception accuracy. Lately, NN schemes such as shallow neural network (SNN), deep neural network (DNN), and convolution neural network (CNN) are widely employed to examine a class of biomedical datasets. These NN schemes work well on certain biomedical images and biomedical signals.

The aim of this Special Issue is to bring together original research and review articles highlighting pioneering research work on various biomedical data examinations using innovative or traditional ADD schemes. We welcome studies on schemes developed using swarm intelligence approaches, NN schemes, and hybrid techniques. Furthermore, submissions can include CNN architectures to segment and/or classify the biomedical signals/images.

Potential topics include but are not limited to the following:

- Swarm intelligence supported biomedical image thresholding and segmentation
- Swarm intelligence supported feature selection/reduction
- Swarm intelligence to optimize the neural network architectures
- Shallow or deep neural network scheme for biomedical signal classification
- Convolution neural network scheme for biomedical signal evaluation
- Convolution neural network scheme for biomedical image segmentation

Authors can submit their manuscripts through the Manuscript Tracking System at https://review.hindawi.com/submit?specialIssue=757925.

Papers are published upon acceptance, regardless of the Special Issue publication date.

**Lead Guest Editor**
Navid Razmjooy, Tafresh University, Tafresh, Iran
*xnavid@gmail.com*

**Guest Editors**
V. Rajinikanth, St. Joseph's College of Engineering, Chennai, India
*rajinikanthv@stjosephs.ac.in*

Suresh Manic, National University of Science and Technology, Seeb, Oman
*sureshmanic@nu.edu.om*

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