

Advanced metaheuristic for bio-medical issues

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Breast Cancer is the most serious disease in the biomedical science and maximum people are dead with the cause of this disease. Mammography is the initial screening assessment of breast cancer. In this work, a new hybrid version of swarm intelligence based technique known as MF-SMA has been proposed by merging the merits of two different robust optimizers such as Moth flame and Slime mould. The main objective of this work is to apply a segmentation technique to detect the cancerous region based on fresh structure of multilayer perceptron (MLP) neural network using MF-SMA algorithm. In this version, the exploitation and exploration phases of SMA have been enhanced by MFO method for local optima avoidance and premature convergence. The exclusive motivation for overdue mixing modifications in SMA is to advantage the process to evade immature convergence and to steer the search in the way of the possible exploration or search area in a faster direction. To test the performance of the proposed technique different set of experiments have been performed and results are compared with various

recent metaheuristics. To demonstrate the robustness of the proposed technique results have been taken on five bio-medical datasets such as XOR, Balloon, Iris, Breast Cancer and Heart. All the results are in the favour of proposed technique.

Biography

Narinder Singh, PhD from Punjabi University, Patiala, Punjab, India is senior desk and researcher position in Punjabi University Patiala. He has published about 35 research papers in journals of international repute with various international professors. He has teaching and research experience of 14 years. His areas of interest include Swarm Intelligence, Computational Intelligence and large-scale applications. He is a reviewer of several well reputed journals such as Springer, Elsevier, Hindawi, Recent Science, IEEE and many more. And he has also taken part in different international levels of conference as an Organized Committee member, International Advisory Committee member and Scientific Committee member. Additionally, he has organized three special sessions on Nature inspired algorithms at the international level such as Egypt, Morocco and Romania. He is a life member of various learned bodies. He has attended several national and international conferences and delivered several lectures and talks.

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