

Special Issue on Bioinspired Evolutionary Computations in Healthcare

CALL FOR PAPERS

Bioinspired optimisation algorithm is a major research area that has attracted the interest of many researchers in the fields of computational intelligence, soft computing, and optimisation. The past and on-going research on this topic cover a wide range of research areas from basic research to a large number of real-world applications in science, engineering, industry, business, and healthcare. The introduction of many new algorithms inspired by natural selection, food foraging, group movements, physical laws, and other natural paradigms has made this field of research quite relevant. These algorithms provide efficient tools to those problems, which cannot be solved using traditional and classical mathematical methods because the algorithms do not require any mathematical conditions to function.

Given the success of bioinspired optimisation algorithm methods and techniques in big data analysis applications, it is expected that they can also be successfully applied in healthcare. Recent improvements in artificial intelligence, machine learning, and bioinspired optimisation algorithms have enhanced the importance of biomedical signal and image processing research. Biomedical image processing is similar in concept to biomedical signal processing in multiple dimensions. It includes the analysis, enhancement, and presentation of images captured via x-rays, ultrasound, magnetic resonance imaging (MRI), nuclear medicine, and visual imaging technologies. Bioinspired optimisation algorithms are now quickly developing in all science and engineering research fields, including biomedical sciences. In this context, bioinspired optimisation algorithms can play a vital role in handling the different aspects of healthcare.

The aim of this Special Issue is to solicit original research articles addressing the latest research and developments, up-to-date issues, and challenges of nature-inspired optimisation algorithms. Review articles discussing the state of the art are also welcome.

Potential topics include but are not limited to the following:

- ▶ Biomedical engineering
- ▶ Healthcare informatics
- ▶ Medical imaging and pattern recognition
- ▶ Biomedical imaging and image processing
- ▶ Bioinspired algorithms for biological problems
- ▶ Bioinspired algorithms for healthcare recommendations
- ▶ Bioinspired algorithms for medical imaging
- ▶ Applications of particle swarm optimisation (PSO) for healthcare
- ▶ Applications of ant colony optimisation (ACO) algorithms for healthcare
- ▶ Applications of bacterial foraging optimisation (BFO) for healthcare
- ▶ Applications of artificial bee colony (ABC) algorithm for healthcare
- ▶ Applications of firefly algorithm (FFA) for healthcare
- ▶ Applications of harmony search algorithms for healthcare
- ▶ Bioinspired algorithms for artificial life
- ▶ Multi-objective, multi-modal, and dynamic bioinspired optimisation algorithms

Authors can submit their manuscripts through the Manuscript Tracking System at <https://review.hindawi.com/submit?specialIssue=736391>.

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

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