**Call for Papers**

**IEEE CEC 2023 Special Session on “Evolutionary Computation in Healthcare Industry”**

**Aim**

Worldwide, the healthcare industry would continue to thrive and grow, due to the increasing demands of diagnosis, treatment, disease prevention, medicine, and service which affect the mortal rates and life quality of human beings. Two key issues of the modern healthcare industry are improving healthcare quality, as well as reducing economic and human costs. The problems in the healthcare industry can be formulated as scheduling, planning, predicting, and optimization problems, where evolutionary computation methods can play an important role. Although evolutionary computation has been applied to scheduling and planning for trauma system and pharmaceutical manufacturing, other problems in the healthcare industry such as decision making in computer-aided diagnosis and predicting for disease prevention have not been properly formulated for evolutionary computation techniques, and many evolutionary computation techniques are widely adopted in the healthcare community.

This special session, as an event organized by the Task Force on “*Intelligence Systems for Health*” in the Intelligent Systems Application Technical Committee, aims to promote the research on evolutionary computation methods for their applications to the healthcare industry.

**Scope**

The topics of this special session include, but are not limited to, the follows:

* Evolutionary computation in resource allocation for hospital location planning, and aeromedical retrieval system planning, etc.
* Application of evolutionary computation for job scheduling, such as ambulance scheduling, nurse scheduling, and job scheduling in medical device and pharmaceutical manufacturing, etc.
* Multiple-criteria decision-making for computer-aided diagnosis using expert systems.
* Web self-diagnostic system with the application of information retrieval and recommendation system.
* Learning and optimization for vaccine selection and personalized/stratified medicine.
* Data-driven surrogate-assisted evolutionary algorithms in pharmaceutical manufacturing processes.
* Modeling and prediction in epidemic surveillance system for disease prevention.
* Route planning for disability robots.

**Submissions**

Papers should be submitted following the instructions at the [IEEE CEC 2023 website](https://2023.ieee-cec.org/paper-submission/). Please select the main research topic as the Special Session on “Evolutionary Computation in Healthcare Industry”. Accepted papers will be included and published in the conference proceedings.

Deadline: 13th January 2023

Notification: 31st March 2023

Conference: 2nd-5th July 2023, Chicago, United States

**Organizers**

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