MedGEC'16 Chairs' Welcome

Welcome to MedGEC 2016.

MedGEC is the GECCO Workshop on the application of genetic and evolutionary computation (GEC) to problems in medicine and healthcare.

A dedicated workshop at GECCO continues to provide a much needed focus for medical related applications of evolutionary computation, not only providing a clear definition of the state of the art, but also support to practitioners for whom genetic and evolutionary computation might not be their main area of expertise or experience.

The Workshop has two main aims:

(i) To provide delegates with examples of the current state of the art of applications of GEC to medicine.

(ii) To provide a forum in which researchers can discuss and exchange ideas, support and advise each other in theory and practice.

This is the eleventh year that this workshop has been presented at GECCO, a reflection of the continued importance of genetic and evolutionary programming to medical applications. Presentations reflect a wide range of health care areas including: Medical Imaging and Signal Processing; Data Mining Medical Data and Patient Records; Clinical Expert Systems and Knowledge-based Systems; Modeling and Simulation of Medical Processes; and Clinical Diagnosis and Therapy. Despite this broad range of applications, there are common themes of interest that are important in achieving a successful solution to the problems addressed. One recurring theme is accessibility to reliable medical datasets to train, test and evaluate genetic and evolutionary algorithms. It is acknowledged that achieving a "Gold Standard" dataset is problematic, due to the difficulties in gaining access to patients and the reliance on conventional clinical evaluation, which is often subjective, and therefore, potentially unreliable. A second important theme is the choice of genetic and evolutionary algorithm employed, its suitability for the problem at hand and the benefits of alternate representations. The Workshop provides a knowledgeable and supportive forum in which these and other issues can be discussed. Although traditionally a venue for practitioners in genetic and evolutionary computation development, it is hoped that the Workshop will also attract a wider audience, such as medical practitioners and other health care professionals who have an interest in the use of evolutionary algorithms in medicine. The Workshop organizers are always receptive to suggestions for new themes, areas for discussion and new activities and can be contacted directly via email.

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