Editorial Preface

Special Issue on Metaheuristics and Bio Inspiration in Information Retrieval

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INTRODUCTION

In the last decade, the popularization of computers, the terrible explosion of unstructured data, and the diversity of data sources on the web have profoundly undermined the relationship between man and information. However, in our ultramodern life a terrifying change has been observed and the Information retrieval technology has become used by billions of people around the world. We are flooded in a rising tide of information where the social web has had an expanded impact on all areas of our lives. Simply, in consideration the need for effective methods to access the world of digital information appears as a cardinal necessity (Bouarara et al., 2015). The need for Information Retrieval is that we have too much data, applications and services, but we do not have any useful information, which can cause a lot of confusions and perplexities for users (Bouarara et al., 2016). Information retrieval (IR) focuses primarily on the design and implementation of computer systems that deal with the representation, storage, and organization of data elements such as textual records, web pages, online catalogs, or multimedia objects in order to provide users with easy access to relevant information (Ramachandran & Chang, 2014).

The IR is a well-established discipline that has provided solutions for users for over three decades but is still an active field of research. This suggests that although much work has been done in this area, much remains to be done. In terms of scope, IR is related to multidisciplinary and interdisciplinary topics including modeling, web search, text classification, systems architecture, user interfaces, data visualization, filtering, Multilingual information retrieval, grouping and multimedia information retrieval (Bouarara et al., 2015). As a result, as long as information exists, the technology of information retrieval is omnipresent (Chang et al., 2010).

Recently, an exciting and potentially large-scale development in computer science is the emergence of bio-inspired algorithms. These automatically analyze a lot of data for the purpose of extracting the relevant information. This crystallized information will be used to make automatic predictions and to support users in making decisions. IR and bio-inspiration can be used together to solve different problems applications in the web especially when conventional methods are too expensive or difficult to implement.

After a comprehensive review process, two papers on this special theme have been accepted for publication in the first half of this issue.

CONTENT OF THIS ISSUE

In this regard, the first article talks about a new bio inspired algorithm applied for cardiotocogram data. It is a good contribution for the domain of medical data, since there is no bio inspired algorithm or a meta-heuristic applied for cardiotocogram data (Menad & Amine, 2017).

The second article gives a theoretical idea about improving text mining algorithms using pragmatic concepts through a conceptual model. Authors proved how reversing the pragmatic process of meaning expression can lead to improved text mining algorithms (Wall & Singh, 2017).

The third, fourth, and fifth articles of this issue reveal innovative findings covering a range of subjects from 3D digital image correlation, to recently advanced approaches in big data management, and ultimately to theories and perspectives in knowledge discovery and data visualization

On a final note, it is my hope that these contributions can help researchers interested in text mining, data mining, meta-heuristic, information retrieval, bio-inspiration—and of course—a theoretical and practical understanding of collective and organizational intelligence.

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