

Guest Editorial Preface

Special Issue on Computer and Web Science Research in the Arabic World: Promoting Scientific Excellence and Sustainable Innovation

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INTRODUCTION

The Arabic World has to show excellent competencies and skills related to Computer Science and Web Science Research. It is a great honor for our Journal to host a relevant special issue promoting a variety of innovative ideas and excellent research works in a variety of topics.

The vision for a Sustainable Arabic World as a key partner for the development, the prosperity and the world peace is based on the excellent performance of academics, researchers, governmental officers and entrepreneurs. Technology enabled Innovation will be the new context for the Arabic World towards a sustainable economy capable of producing wealth for the region and the entire humanity. The promotion of international collaborations is another critical aspect for the new model of the economic development in the region. Last but not least the role of Computer Science and Web Science education is also significant. Investments in the relevant sectors should be seen as long term reforms promoting new business models.

The following are only a few of the proposed directions for the enhancement of this vision and the promotion of the international impact of the Arabic Research on Web and Computer Science:

- Establishment of Interdisciplinary Programs for technology-enabled innovation linked to the key core competencies of the region;
- Promotion of Industry Academia Collaborations for Sustainable Development related to Smart Cities and Internet of Things Research;
- Strategic Scientific Collaborations with China, India, Pakistan and African Countries promoting the role of the Arabic World as a Development Hub;
- Redesign of Academic Curricula in Computer Science, Information Technology and Information Systems in order to reflect a developmental model for the Economy and the Society;
- Use of innovative computer and web science approaches for the promotion of the Arabic Language, Culture and Civilization Worldwide.

INSIDE THIS ISSUE

The first paper of the special issue entitled “Subjective Text Mining for Arabic Social Media,” is an excellent discussion for the capacity of text mining to support smart services in the context of Arabic Social Media, with many diverse application areas.

The second paper of the special issue entitled “Reliable and Energy Efficient Routing Protocol for Under Water Sensor Networks” is an excellent contribution to the Internet of Things and Sensor Networks research. Given the special characteristics of the Arabic World applications related to Sensors Networks and IoT will justify a number of value adding business models.

The third research paper is about A Novel Query-Driven Clustering-based Technique for Vertical Fragmentation and Allocation in Distributed Database Systems which is an interesting innovative algorithmic approach for the relevant problem in Distributed information Systems. Innovative Clustering methods are required for a number of smart services in the Arabic World and worldwide.

The fourth research paper entitled “BCWB: A P300 Brain-Controlled Web Browser” proposes a sound proposition for a critical problem: Authors promote a novel assistive technology, a P300 Electroencephalography Brain-controlled Web browser to enhance the accessibility of people with severe motor disabilities to Web resources. This is for sure another critical research area the provision of innovative assistive methods for access to key information systems.

The next article enlightens further the big agenda of Database Damage and it is entitled, “Transaction Dependency Based Approach for Database Damage Assessment Using a Matrix.”

The sixth paper, “CommuniMents: A Framework for Detecting Community based Sentiments for Events,” is an excellent contribution for the use of Sentiments Research in Social Events.

The final article entitled “Matching and Ranking Trustworthy Context-Dependent Universities: A Case Study of the King Abdullah Scholarship Program” is discussing an interesting ranking algorithm. This is also a very interesting research area that will gain significant role in the near future for the provision of sustainable academic collaborations and evaluation of academic investments.

CONCLUSION

The Arabic World is under a strategic shift related to the priorities of the Development Model. In this direction Computer and Web Science, will serve as catalysts in the next fifteen years. The Vision 2030 is a sound proposition for Sustainability and long term prosperity in the Region. We do believe that this special issue is a sound contribution to the scientific debate for the directions and the methods of this critical shift. We are more than enthusiastic to be part of this evolution. Multidisciplinary Research, International Strategic Research Alliances and a focused human development program targeted in the development of required skills and competencies are required.

We are looking forward for your reflection to the published research of this issue.

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