King Saud University

Journal of King Saud University – Computer and Information Sciences

Message from the Editor

Dear Readers and Colleagues,

With this issue, we first welcome our new International Associate Editors, Tom Chen from City University London, former editor-in-chief of IEEE Communications Magazine, and founding editor-in-chief of IEEE Communications Surveys, among other previous and current editorial duties. Enrique Herrera-Viedma from Universidad de Granada, associate editor and editorial board member in many ISI journals. Vijay V. Raghavan from University of Louisiana at Lafayette, and special issue guest editor in IEEE Computer and IEEE Computer magazine, among other renowned Journals. We wish also to welcome our new Advisory board members, Mohammed Atiquzzaman from University of Oklahoma, technical editor on IEEE Communications Magazine, on the editorial board of International Journal on Wireless and Optical Communications and many other renowned Journals. Chin Yee Suen from Concordia University, editor-in-chief of the Journal of Pattern Recognition, an Adviser or Associate Editor of five other journals.

In this issue, we will have two reviews and six full-length articles. Through these articles, you will be exposed to vibrant topics ranging from wireless networks, to artificial intelligence, to computer vision and pattern recognition, and finally to natural language processing.

The first four papers cover recent challenges in Wireless Networks. The first is a survey paper presenting a comparative study of the latest research in broadcasting techniques used for route discovery in ad-hoc networks. In the second, a novel encryption scheme to secure data transmission in WSNs is presented. This is achieved while minimizing the communication overhead, the memory requirements, energy consumption, and thus extending the network lifetime. The third paper proposes a hierarchical protocol for creating clusters from which nodes are to be chosen to form the backbone of a mobile ad-hoc network. Both analytical and simulation models were derived to validate the protocol. In the fourth paper, a technique based on the manipulation of some conditional probabilistic factor, was developed to isolate selfish nodes in a MANET environment.

The next two papers use Artificial Intelligence to provide insights into two different application domains. The first paper is related to social networks and topic analysis, where the authors use the contents of social networks in defining related communities. Their approach is based on partitioning topics into clusters to find meaningful communities. The second paper gets us into the case-based reasoning (CBR) in the medical domain, where the raw data are encoded using SNOMED CT (SCT) terminology into standard format to be used in intelligent case retrieval algorithms. A diabetic diagnosis CBR system has been used as a case study for the implementation of the proposed framework, and the uncovered concepts proposed for addition in future SCT releases.

The seventh paper in this issue is in text mining, where the authors use the opinions expressed in social media to classify their sentiment. The work here takes into consideration the specifics of the Urdu language blended with some English and uses Naïve Bayesian as a classifier.

The last article is again a review article, but this time it presents a survey on Question Answering Systems (QASs) that generate answers. The presented QASs will be classified using Natural Language Processing (NLP) techniques, that are based on various criteria, such as application domains, types of questions, type and characteristics of data sources, matching functions, and forms of answers. At the end, the authors give their perception on future scope of research in this area.

This concludes our message for this issue and this academic year. We wish everyone a relaxing as well as rewarding vacation. Our editorial team will be ready to process your submissions. As always, suggestions and remarks of our readership are more than welcome, and it is the result of your valuable feedback that our ''Articles in Press'' section has been activated, and within less than a month, your accepted manuscript is given a DOI and is made available online.

Prof. Nasser-Eddine Rikli
Editor-in-Chief of JKSUCI