PAPERS

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BIOGRAPHICAL NOTES:

Mohamed EL FAR, Professor of Computer Science at the Faculty of Science Dhar EL Mahraze of Fez, Morocco. He is the Chair of the IMP conference series since 2014, member of the LIMS Research Laboratory. His research interest includes: Data Mining, Deep Learning, Decisional Informatics and Indexing of 3D Objects. He has published several papers in international conferences and journals.

Fei Yan, Associate professor at the School of Computer Science and Technology in Changchun University of Science and Technology, China. He received his doctorate in engineering at the Department of Computational Intelligence and Systems Science in Tokyo Institute of Technology, Japan. He has published more than 40 papers in the fields of computational intelligence, quantum information processing, and medical image analysis.

PREFACE:

We have witnessed significant advances in multimedia research and applications due to the rapid increase in digital media, computing power, communication speed, and storage capacity. Multimedia has become an indispensable aspect in contemporary daily life, and we can feel its presence in many applications ranging from online multimedia search, Internet Protocol Television (IPTV), and mobile multimedia, to social media. The proliferation of diverse multimedia applications has been the motivating force for the research and development of numerous paradigm-shifting technologies in multimedia processing.

This special issue documents the most recent advances in multimedia research and applications. It is a comprehensive issue, which covers a wide range of topics including multimedia information mining, multimodal information fusion and interaction, multimedia security, multimedia systems, hardware for multimedia, multimedia coding, multimedia search, and multimedia communications.

In fact, this special issue received as submissions the best papers accepted in the 4th IEEE IMP'18 conference and which cover topics related to multimodal information and information mining. After carrying a careful peer review process, we have retained four papers.

The first paper is entitled "Image segmentation method based on fuzzy clustering: Application to MR brain tissue extraction." The authors proposed a fast and robust method for MR brain image segmentation based on an improved clustering algorithm. They validated the proposed method on a sequence of normal brain images from the BrainWeb database and found it to have advantages in both robustness to noise and running time.

The second paper is entitled "Studying the impact of the color representation choice on segmentation results by the seeded region growing algorithm." The authors adapted and used the Seeded Region Growing segmentation algorithm using both no-edgness and smoothness criteria for the seed selection process on two types of color images, i.e., RGB and HSV. They found these results underlined overall good segmentation outputs for both color spaces.

The third paper is entitled "Toward realizing talking quantum movies: Synchronization of audio and visual content." The authors presented an audiovisual synchronization framework for quantum movies and discussed the requirements for its initialization and for the retrieval of both media types, i.e., image and audio signals. The feasibility of this framework was demonstrated by a simulation experiment, and possible applications were extensively discussed.

The fourth paper is entitled "Isolated Arabic Characters Recognition, Using a Robust Method Against Translation, Noise and Scaling, Based on the «Hough Transform»." The authors proposed a structural approach to extract the features of isolated Arabic characters, based on the «Hough Transform». The authors carried out many tests and confirmed the improvement of the recognition rate achieved by their method.