Editor's Note

The International Journal of Interactive Multimedia and Artificial Intelligence - IJIMAI (ISSN 1989 - 1660) provides an interdisciplinary forum in which scientists and professionals can share their research results and report new advances on Artificial Intelligence (AI) tools or tools that use AI with interactive multimedia techniques.

After its recent tenth anniversary, the journal has achieved an important milestone. From 2015 to 2018 IJIMAI was indexed at Web of Science through Emerging Science Citation Index. This meant a great increase in visibility and number of received papers. This year, Clarivate Analytics has accepted the inclusion of IJIMAI in the Journal Citation Reports. Specifically, IJIMAI is being indexed and abstracted in Science Citation Index Expanded, Journal Citation Reports/Science Edition and Current Contents®/Engineering Computing and Technology. The Web of Science Categories in which IJIMAI is included are "Computer Science, Artificial Intelligence" and "Computer Science, Interdisciplinary Applications". This way, IJIMAI is indexed in Science Citation Index Expanded beginning with vol. 4(3) March 2017 so that the journal will be listed in the 2019 Journal Citation Reports with a Journal Impact Factor when released in June 2020. Given this great achievement, IJIMAI Editorial Board has to thank authors for all the papers sent and all the papers published, as well as reviewers for their support to obtain high-quality in papers, and specially our readers because without them this milestone would not have been possible.

The present regular issue includes research works based on different AI methods such as convolutional neural networks, genetic algorithms, lightning attachment procedure optimization, or those of multi-agent systems. These methods are applied into various fields as video surveillance, gesture recognition, sentiment analysis, territory planning, search engines, epidemiological surveillance or robotics.

The first article of this issue, written by Khiat and Hamdadou [1], targets a problem of spatial localization in territory planning through the proposal of a multicriteria group decision support system based on a multi-agent system. This system reproduces the behavior of decision makers considering the multiplicity and diversity of criteria as well as of own decision-makers. Moreover authors deal with a bounded temporal dimension so that the proposed system finds a solution before fixed deadline expires.

The second article, from Khari et al. [2], focuses on static gesture recognition based techniques. Specifically the aim is to recognized signs of American Sign Language (ASL). They propose a fine-tuned VGG19 Model, a convolutional neural network. The advantage of this method is that it does not rely on features extraction and helps in reducing the computational power required. Besides, it achieves a high recognition rate when tested on an ASL dataset, outperforming other methods.

Also related to computer vision, in the third article, Joshi et al. [3] present an approach for smart video surveillance to track an already classified unidentified vehicle to handle its occlusion. It is difficult to retain features during occlusion especially in case of complete occlusion. The authors propose a computationally efficient approach that works through two periods, a tracking period when there is no occlusion and a detection period when occlusion occurs. The tests on six scenarios prove that the algorithm presents good robustness against high noise and low illumination circumstances.

In the area of computer security, Rodríguez et al. [4] propose a symmetric-key cryptographic algorithm for text, which applies genetic algorithms philosophy, entropy and modular arithmetic.

When comparing the proposed algorithm against RSA and DES, good performance is achieved in several factors, proving that genetic algorithms are a good option when facing problems in computer security.

Retaking the area of computer vision, this time applied to robotics, Sudin et al. [5] propose a novel localization method consisting of a corner extraction algorithm and a distance estimation algorithm for efficiently identifying salient goalposts for Robocup soccer humanoid competitions. The research arises from the fact that recent rules of Robocup discard the use of the middle pole to deliberately provide less prior information for the humanoid vision system. The technique provides highly accurate corner detection and distance estimation compared to other techniques.

Next research applies to web search engines, which process huge amounts of documents and queries so early termination algorithms are convenient to avoid processing all documents. Mansouria et al. [6] modify the WAND algorithm used in search engines, to early terminate with faster and more precise results. Also, they define new fine metrics to improve the evaluation of the retrieved information.

Kumar and Harish [7] present an article about sentiment analysis. Automatic detection of sarcasm or irony from content in microblogging reviews is a challenging task and the authors propose feature fusion to provide knowledge to the system by alternative sets of features obtained using linguistic and content based text features. The features are fused and classified using Support Vector Machine (SVM), Logistic Regression (LR), Random Forest (RF), Decision Tree (DT) and ensemble classifiers. To enhance the performance of the classifiers, they propose a weighted majority voting schema to create an ensemble from the decision of each classifier. The proposed approach is able to capture ironic utterances present in the reviews out-performing existing methods on benchmark dataset.

The next article deals with convergence of media, specifically radio and online spaces. Laor [8] studies the success of radio programs beyond their native FM environment, focusing on their attempts at achieving popularity on social networks. Success on social networks is measured by user involvement and interaction with posted content and comments. The results show that radio program activity on social networks promotes higher levels of interaction with listeners beyond broadcast schedule. Besides, integration of various media forms such as videos or images increases the likelihood of a post becoming popular.

Schrepp and Thomaschewski [9] describe the development and first validation studies of a modular framework for the creation of user experience (UX) questionnaires. This framework allows to select the UX aspects that are relevant for a certain product from a list of existing UX scales, as sometimes none of the existing questionnaires contain all the scales needed to answer a given research question.

In the field of spatial data mining, Zemri and Hamdadou [10] present the SOLAM (Spatial On Line Analytical Mining) system, an extension of Spatial On Line Analytical Processing (SOLAP) with Spatial Data Mining (SDM) techniques. They integrate the EPISOLAP system, targeted to epidemiological surveillance, with a spatial generalization method allowing the predictive evaluation of health risk. The spatial generalization allows exploring the data at different semantic and spatial scales while reducing the unnecessary dimensions.

Next three articles propose solutions to electrical engineering problems, focusing on power systems. The first one, by Mohamed et al. [11], presents the genetic moth swarm algorithm, which is an hybrid approach based on genetic algorithms and moth swarm algorithms, for

determining the optimal location and sizing of renewable distributed generation sources on radial distribution networks. The aim is to minimize the electrical power loss under security constraints. The experiments done prove the effectiveness of the presented approach compared with other methods under several power system constraints and conditions.

The second one of Ibrahim et al. [12] proposes the use of artificial neural networks to improve the performance of static synchronous series compensators (SSSC) integrated into combined wind farms (CWF). Their results illustrate that the performance of CWF can be improved using SSSC adjusted by a neural network, when they compare with CWF with ordinary SSSC and CWF with SSSC tuned by a multiobjective genetic algorithm.

The last article on power systems, by Kamel and Youssef [13], proposes an approach to determine the optimal allocation of different shunt compensation devices in power systems. The approach combines the use of lightning attachment procedure optimization and loss sensitivity indices. The developed algorithm is validated using standard IEEE 14-bus and IEEE 30-bus test systems. It achieves the objective functions with better performance compared to other optimization methods, such as teaching learning-based optimization, genetic algorithm and particle swarm optimization.

Next article, written by Padilla-Zea et al. [14], targets the long-term unemployment problem. It presents a gamified educational platform to empower social economy entrepreneurship skills in long-term unemployed people. The learning path is shaped as a story that guides the work throughout the training process. Two pilots were developed in Italy and Spain, involving five facilitators and around 60 learners. The analysis shows that this game can address various learner profiles that will benefit based on their features. This multi-faceted use of the game allows targeting multiple learners and competences.

This regular issue ends with a study by Rodríguez et al. [15] that aims to carry out a comparison of image recognition methods for the purpose of evaluating exercises performed in an immersive environment for motor skills training. The compared methods are convolutional neural network, K-nearest neighbor, support vector machine and decision tree. The assessment of the techniques is carried out using images captured from an immersive environment, obtaining that the convolutional neural network model has the best performance.

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