International Journal of Artificial Intelligence,
ISSN 0974-0635; Int. J. Artif. Intell.
2019, Volume 17, Issue Number 2

Editorial:
Special Issue on Modern Intelligent Systems Concepts

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Nowadays, Artificial Intelligence (AI) becomes a crucial part of our lives with the great advent and high proliferation of related technologies, techniques and applications. It can be used everywhere and can be applied in all areas such as health, transport, finance, environment, education, industry, telecommunications, social challenges, safety and security, and in any other area that we can think of.

As we can see, AI affects all our daily lives. It influences our choices in one way or another. AI has the potential to provide solutions to many practical problems of daily living and, if properly exploited, can positively revolutionize people's lives. A wide spectrum of intelligent systems has been proposed to streamline and facilitate human daily activities.

This International Journal of Artificial Intelligence (IJAI) special issue includes several topics in AI varying from problem formalisation to machine learning approaches. The included papers are selected and extended from the International Conference on Modern Intelligent Systems Concepts, that was held in Morocco in December 2018 (MISC'2018). In this special issue, we have tried to explore some important branches of the field of AI. The main unifying theme is the idea of machine learning. We presented several ideas of using machine learning and its extension in solving important real-life problems, for known and unknown environments.

In this special issue seven papers are presented. In the first paper, S. Galland and S. Rodriguez propose a solution for mapping any agent-based program into an object oriented one, i.e. from SARL to SRE program. This mapping takes into consideration all what is required for agent based-application as concurrency, distribution, interaction, decentralization, reactivity, autonomy and dynamic reconfiguration. Authors propose Agent-based constructs transformation rules that may be adapted to target another language, with same or different paradigm.

In the second paper, M. U. Ahmed, S. Brickman, A. Dengg, N. Fasth, M. Mihajlovic and J. Norman deal with a pedestrians' behaviour mainly at crosswalk which presents 90% of road crashes. Their aim is to enhance risk assessment by testing and comparing different machine learning approaches, i.e. ANN, SVM, DT, RF, ET, and GBT for recognizing three different pedestrian's movements i.e. standing, walking, and running.

In the third paper, H. Abouzid and O. Chakkor propose a real time unsupervised solution for estimating individual sound signals from a mixture of multiple audio sources. Such problem is considered as complex and hard to solve due to the fact that no information about the characteristic of

the original sound sources is available, such as the number of existing signals in the observed mixture, their natures, the statistical properties, etc. Their idea is to combine between two types of autoencoders, the convolutional autoencoder and the denoising autoencoder for enhancing individual signal recognition.

As for the fourth paper, M. U. Ahmed, M. G. Altarabichi, S. Begum, F. Ginsberg, R. Glaes, M. Östgren, H. Rahman, and M. Sörensen tackle the problem of optimizing functioning and reducing disability for visually impaired people using interactive and adaptable to change system. Their goal is not only to provide an indoor/outdoor navigation assistance for those people to avoid obstacles without knowing their types but also the name of the objects or obstacles to the visual impaired person so that he/she may have a feeling of the environment.

Ben Hassine, W, Hamdi, M. Es-Sadqi and A. Idrissi, in the fifth paper, deal with the hard problem of arranging different Web services to come with a complex one that can solve a given user query. This problem is considered as complex one due to the lack of precise information in the nowadays user query, i.e. ambiguous, incomplete, etc. Therefore, authors propose to enrich the initial problem with knowledge from any available sources to streamline the solving process.

The sixth paper K. Midoun, M. Loudini, W. Hidouci and A. Rezgui propose a solution for load balancing problem for a parallel programming system MapReduce. This system facilitates the computation needed for complex big data applications. Since real-world object may have several representations used by different data sources, MapReduce system is used for entities matching to avoid redundancy within available data on the public Web. Identifying duplicated entities is an important issue in data integration and data cleaning efforts.

The last and not the least effort, given by H. Rehioui, A. Idrissi, A. Koukam, A. Gihbid, N. Tawfiq And M. Khyatti, deals with enhancing the processing of the exponential growth of patients' data in medical domain. Their objective is to apply several clustering methods, i.e. K-means, EM, DENCLUE, DENCLUE 2.0, DENCLUE-SA, DENCLUE-GA and DENCLUE-IM, on cancer dataset and evaluate their performances. This effort is performed in order to show the importance of clustering algorithms in different areas of life like the medical field. All the experimental results and interpretations are given in details and explained in the end of each paper.

We consider that this special session presents some real advances in the field of Artificial Intelligence. It contributes to its emergence, its evolution, and particularly its orientation in the service of the humans.

We would like to thank all the authors for their interactions and interesting contributions.

In addition, we will not close this file without warmly acknowledging the great efforts of the editors, especially Professor Radu-Emil Precup and Professor Tanuja Srivastava for their great help and support and to any person whom contribute to promote the International Journal of Artificial Intelligence.

Guest Editor,

Abdellah Idrissi, MISC'2018 General Chair