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Intelligent Computing for Society

J.UCS Special Issue

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In recent times, the role of computing in various fields of life such as business, banking, government, entertainment, daily life, industry, education, and administration is notable. The implications of computing in modern society has made it a much needed tool of present times. Whereas, enormous developments in computing and information technology in recent years has also dramatically changed human life. Besides existing fields of computing, recently new fields in computing are emerging into problem-solving tools and contribute to society. These days' innovative applications of computing such as sensor based computing and computing for internet of things are setting future trends in society.

We are honoured to present this special issue of the Journal of Universal Computer Science (J.UCS) about intelligent computing and technologies and their applications in the modern society. The editors of this special issue solicit contributions from the authors who published their work in the annual iCoS conference, we did not restrict submissions to this community. Our call for papers was disseminated wide and was open to any scholar. J.UCS is an open-access journal.

In total, we received twenty one journal submissions, six of these were rejected on the bsasis of scope of the special issue and fifteen were deemed appropriate for refereeing. Eventually eight were accepted after several rounds of reviews, yielding an acceptance rate of 39.09%. They are described below.

We are thankful to the honourable reviewers who graciously volunteered their time for this important scholarly activity. Furthermore, we thank the J.UCS consortium, the Artificial Intelligence Research Group for supporting this special issue. Lastly, we thank J.UCS staff, particularly Ms. Dana Kaiser for her support and excellent work in producing this issue.

The paper "**Trust Based Cluster Head Election of Secure Message Transmission in MANET Using Multi Secure Protocol with TDES**" by K. Shankar and Mohamed Elhoseny presented an approach to identify the better-trusted nodes by

EECM with some important parameters which are position location, speed, capacity, lifetime and energy for elect the optimal CH along with the RBF network model. This paper contributes in the field of secure and intelligent transmission in MANET.

In the paper "**Research on Fair Trading Mechanism of Surplus Power based on Blockchain**" by Zhuoqun Xia, Jingjing Tan, Jin Wang, Runnong Zhu, Hongguang Xiao, Arun Kumar Sangaiah discussed a Blockchain enabled secure approach for analyzing the trading mechanism of the power surplus market and designing a smart contract for multi-party bidding power resources based on blockchain technology, and achieved the decentralized power trading decision for symmetric and fair information.

The paper "**High-Performance Simulation of Drug Release Model Using Finite Element Method with CPU/GPU Platform**" by Akhtar Ali and Rafaqat Kazmi presented a high performance simulation for using parallel computing in order to handle computational complexities and large sparse system arise after discretizing the model equations are explained. We have designed a hybrid CPU/GPU solution of the proposed model by using Matlab.

In the paper "**A Smart Hydroponics-Based System for Child Education**" by Samet Dinçer and Yıltan Bitirim discussed a a novel smart system to help and educate children by contributing to their improvement on cognitive domain, affective domain and psychomotor domain. The proposed idea of hydroponics-based smart education system is task oriented and it does not interfere the child's daily needs such as studying and sleeping and includes instant child control.

In the paper "**Decision-making Model at Higher Educational Institutions based on Machine Learning**" by Yuri Vanessa Nieto, Vicente García-Díaz, and Carlos Enrique Montenegro a decision-making model is presented for managers and administrator of HEIs is presented. Authors present a comparison between five robust Machine Learning algorithms is executed accomplishing outperformed results by Support Vector Machine.

The paper "**SENTIPEDE: A Smart System for Sentiment-based Personality Detection from Short Texts**" by Adi Darliansyah, M. Asif Naeem, Farhaan Mirza, Russel Pears presented a sentiment-based personality detection system to infer trait from short texts. Authors used the spirit of Neural Network Language Model (NNLM) by using a unified model that combines a Recurrent Neural Network named Long Short-Term Memory (LSTM) with a Convolutional Neural Network (CNN).

The paper "**An Intelligent Data Analytics based Model Driven Recommendation System**" by Bushra Ramzan and Rafaqut Kazmi presents an intelligent approach to handle heterogeneous and large-sized data of user reviews and generate true recommendations. The proposed approach makes use of Apache Cassandra to efficiently store data having context properties such as awareness and knowledge of the tourists, personal preferences and location of the users.

In the paper "**A Web3.0-based Intelligent Learning System Supporting Education in the 21st Century**", by Khaled Halimi and Hassina Seridi-Bouchelaghem described the design of a Web 3.0-based Intelligent Learning System (ILS) that addressing the students' needs in the 21st century. The work emphasizes that implementing a learning analytics approach that uses: text classification, sentiment analysis, topics extraction, and text clustering on the basis of a semantic web and ontologies can support the connectivist learning.