Editorial

Vijayakumar Varadarajan*

School of Computing Science and Engineering,
Vellore Institute of Technology,
Chennai, 632014, India
Email: vijayakumar.v@vit.ac.in
*Corresponding author

V. Subramaniyaswamy

School of Computing,
SASTRA Deemed University,
Thanjavur, 613401, India
Email: vsubramaniyaswamy@gmail.com

Piet Kommers

Faculty of Behavioural Sciences,
University of Twente,
P.O. Box 217, 7500 AE Enschede, The Netherlands
Email: pkommers@gmail.com

Margriet Simmerling

Helix5,
Enschede, 7522, The Netherlands
Email: simmerling@helix5.nl

Biographical notes: Vijayakumar Varadarajan is currently a Professor and Associate Dean from the School of Computing Science and Engineering at the Vellore Institute of Technology, Chennai, India. He has more than 18 years of experience including industrial and institutional. He has completed his PhD from the Anna University in 2012. He has published many articles in national and international level journals/conferences/books. He serves as the Editor-in-Chief for *EAI Endorsed Transactions on Cloud Systems* journal. His research interests include computational areas covering grid computing, cloud computing, computer networks, cyber security and big data.

V. Subramaniyaswamy is currently working as an Associate Professor from the School of Computing, SASTRA Deemed University, India. He previously worked as an Assistant Professor at the Sathyabama University, India. In total, he has 15 years of experience in academia. He received his PhD degree from the Anna University, India and continuing the extension work with the support of Department of Science and Technology as a Young Scientist Award holder. He also serves as a guest editor for various special issues of reputed international journals. His technical competencies lie in recommender systems, cloud computing, internet of things, context-aware computing, big data analytics, and social network analysis.

Piet Kommers is a UNESCO Professor in the field of learning technologies affiliated with the universities of Twente and Utrecht, The Netherlands. His specialty is social media for communication and organisation. As the co-Chair of the IADIS multi-conference, he initiated the conferences of web-based communities and social media, e-society, mobile learning and international higher education. He is a Professor from the UNESCO Institute for Eastern European Studies in Educational Technology and Adjunct Professor at the Curtin University in Perth, Australia and the University of Eastern Finland.

Margriet Simmerling is a peer consultant/Senior Manager for R&D projects in the area of e-society and web-based communities. She participated in the advisory board for the Dutch Ministry of Economic Affairs and is active as a reviewer for the European Commission. She designs and moderates e-learning modules and workshops in the domain of education technology and psychology at PhD level.

The current field of web-based communities undergoes a drastic innovation, not only get its human partners more and more facilities to find each other and bond around any aspect of life. Since recently the rapidly evolving fields of big data, analytics, machine learning and deep learning have joined the sophisticated orchestration of online communities as well. In this issue the main keyword is 'in the cloud'. However, what we have seen in the Facebook dramas in 2017 and 2018, 'cloud' is no longer just a way for storage: it is inevitably an arena for exploiting social data beyond its scope of initial agreement. In recent times, the rapid development of information and communication technologies have categorised the web technologies and made fundamental changes to the community building, collaboration, and organising in economic and social life. In specific, the online community brings large numbers of geographically dispersed individuals together towards supporting an activity, interest or identity. There are many novel methods of organising the individuals for the knowledge creation and innovation. With growing number of memberships among online communities, the need for better technologies to support the organisation, governance, and processes of communities is found to high. The technological solutions for the larger community base can be easily met with the cloud computing paradigm.

In this issue we present research results and state-of-the-art report from India, Republic of Korea, and Turkey. As a hot topic at the moment, 'Cloud-based opportunities for online communities' arouse a lot of attention among global researchers working with cloud computing paradigm. The papers included in this special issue cover several important topics and present some of the key directions in this vibrant and rapidly expanding area of research and development in cloud-based online communities. We hope that the set of selected papers provides the research community with a better understanding of the current directions and areas to focus in future.

This special issue aims at presenting the latest developments, trends, and solutions of web-based communities with special focuses on cloud computing paradigm.

The first article by Saikishor Jangiti et al., 'Automated question extraction and tagging for cloud-based online communities' proposes a new question generation system for automated question generation for cloud-based community question answering platforms. The proposed system has been evaluated with human effort. The elementary sentences were extracted from complex sentences obtained from cloud-based community

question answering platforms and the entities were discovered using a named entity tagger.

The second article by Rajakumaran Gayathri and Venkataraman Neelanarayanan, 'Identification of regression function and distribution model for denial of service attack in Second Life online community using simple network management protocol' focuses on the DoS attack detection, and classification using SNMP MIB variables and linear regression model. This paper contributes on identifying TCP MIB variables essential for the accurate detection of TCP-SYN in the web-based online communities. The chosen SNMP-based TCP MIB are validated through the theoretical references and linear regression model. TCP-SYN detection algorithm is formulated with the identified TCP MIB variables tcpPassiveOpens, tcpAttemptFails and tcpCurrEstab which yields the accuracy of 99.8%.

The third article by Pratibha Pandey and Abhishek Singh, 'Energy efficient resource management techniques in cloud environment for web-based community by machine learning: a survey' discusses the applications of machine learning in cloud environment and its effect on web-based community. This paper has a variety of discussions and survey of paper for allocation of resources using machine learning for energy efficient data centres for online users.

The fourth article by Abdul Quadir Md and V. Vijayakumar, 'Dynamic ranking of cloud services for web-based cloud communities: efficient algorithm for rating-based discovery and multi-level ranking of cloud services' addresses the issue of determining the trustworthiness of CSPs in web, rating-based dynamic discovery (RBDD) of QoS attributes that keeps changing periodically and multi-layer ranking (MLR) algorithm that ranks the discovered CSPs in an energy efficient manner have been proposed. This approach allows researchers to evaluate CSPs trustworthiness online from Cloud Auditors perception and enables the credibility of feedback trust between CSPs and CCs. Such method is utmost essential to web CCs who desires to select a service provider from a group of CSPs, pleasing their requirements online. Evaluation results indicates that the RBDD is capable of sensing behavioural changes in CSPs and discovers the dynamic trustworthy service providers and MLR algorithm ranks them based on CC requirements with high accuracy and minimal time complexity compared to other approaches.

The fifth article by Logesh Ravi et al., 'An intelligent fuzzy-induced recommender system for cloud-based cultural communities' proposes a personalised recommendation model in the field of cultural heritage (CH) with the help of the cloud computing environment. The experimental results obtained show the improved performance of developed RS in the field of CH tourism services.

As we can see in each of the five preceding articles, 'automated' has no longer the mere connotation of 'getting for granted'. Automated in the future will always mean 'getting accompanied by meta-data so that unforeseen conclusions can be achieved'. This is a challenge for coming young computer scientists and a rich source of income for lawyers, human rights activists and educationalists as well.

Enjoy your reading and feel welcome to upload your own publication into the *IJWBC* review procedure.