Editorial

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Biographical notes: Varadarajan Vijayakumar is currently a Professor and Associate Dean for School of Computing Science and Engineering at the VIT University, Chennai Campus, India. He has more than 16 years of experience including industrial and institutional. He has completed his PhD from the Anna University in 2012. He has published many journals/conferences/books materials national and international level. He is a reviewer in IEEE Transactions and Springer Journals. He is the Guest Editor for few journals in Inderscience and IGI Global. His research interests include computational areas covering grid computing, cloud computing, computer networks and big data. He received his university level Best Faculty Award for 2015 to 2016. He is also a member of several national and international professional bodies including ISTE, IAENG and CSTA, etc.

Syed Akhter Hossain is currently a Professor and the Head of the Department of Computer Science and Engineering at the Daffodil International University, Bangladesh. He is also an Honorary Professor of Amity University, India. Over the last 23 years, he carries passion to work with ICT industry at international level and with academia. He has deep interest towards research. His research interests include computational areas covering NLP, signal and image processing, machine translation, embedded systems and software engineering. He received international awards for machine translation of Bangla Braille used widely with the visually impaired society in Bangladesh. He is also member of several national and international professional bodies including IEEE, ACM, IIE, etc.

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Rajkumar Buyya is a Fellow of IEEE, Professor of Computer Science and Software Engineering, Future Fellow of the Australian Research Council, and the Director of the Cloud Computing and Distributed Systems (CLOUDS) Laboratory at the University of Melbourne, Australia. He is also serving as the Founding CEO of Manjrasoft, a spin-off company of the university, commercialising its innovations in cloud computing. He has authored over 525 publications and seven text books including *Mastering Cloud Computing* published by McGraw Hill, China Machine Press, and Morgan Kaufmann for Indian, Chinese and international markets respectively.

This special issue is focused on the issues and challenges in maintaining big data and cloud computing, which is now a major threat to our technical environments. It discusses emerging problems such as the data which is growing at a speed greater than the computational speed and also challenges in storing such big data safely.

International Symposium on Big Data and Cloud Computing Challenges (ISBCC) is an annual event organised by the School of Computing Sciences, VIT University, Chennai Campus. ISBCC 2015 is the second edition of the conference. VIT University was established with the aim of providing quality higher education on par with international standards. It persistently seeks and adopts innovative methods to improve the quality of higher education on a consistent basis. VIT University Ranked No. 1 Private Engineering Institution by MHRD, Government of India (NIRF-2016 ranking).

The 20% is the acceptance ratio of the special issue under ISBCC 2015 International Conference.

In particular, in this issue, the reader can find research papers on different topics, all interesting and related to big data and cloud computing challenges.

In the paper of T. Veni and S. Mary Saira Bhanu, the auto-scaling approach is applied to cloud computing, in order to improve resource utilisation efficiency and end-user perceived quality of service. The authors propose a neuro-fuzzy reinforcement learning-based resource scaling approach (auto-scale) to adapt the resource scaling proceed to workload dynamics.

The second paper, by S. Jaya Nirmala, N. Tajunnisha and S. Mary Saira Bhanu deals with advance reservation requests with flexible start times, in the domain of cloud computing. An efficient resource provisioning and scheduling algorithm, in fact, can improve the cloud computing process. The authors present a comparison with existing algorithms, describing the good performances of their proposal, in terms of request acceptance rate and reduced resource fragmentation.

The paper by B.K.S.P. Kumar Raju and G. Geethakumari still concerns with cloud computing but faces a different problem, i.e., the security of clouds. In particular, the authors use complex event processing to identify the root cause of incidents and to handle introspection that is important to monitor the state of a cloud virtual machine from outside of it.

The paper by V. Viswanathan deals with semantic web, focusing on the implementation of bi-directional breadth-first-search algorithm to discover the semantic association in resource description framework. The author will prove that the proposed algorithm is faster than the existing ones.

Finally, as editors of this special issue, we would like to congratulate all the authors, reviewers and journal staff, for the realisation of this work. Each of them contributed to the making of a collection of research papers that, in our opinion, represents a step forward in the research on big data and cloud computing challenges.

Our special thanks go to the Editor-in-Chief Prof. Dr. Ching-Hsien Hsu and his entire Inderscience team for their continuous support. Sincere thanks to the Inderscience Publisher for such great opportunity.