Guest Editorial Preface

Special Issue on Recent Advances in Information Technology Usage in Industrial Application

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Recent development in technologies such as Cloud Computing, Big data, Software Defined Networks, Automation System and Sensors brings a revolution and acts as a catalyst in industrial revolution. These advanced technologies are expected to be the hottest topic in the next few years. There are papers demonstrating architectures, applications, services, experiments and simulations in these areas to support the cases for industrial revolution. Specifically, Cloud Computing, Big data and Sensor Systems are the emerging paradigms in the recent developments of System Dynamics. For developing and refining new applications, more emphasis is given to these complex systems.

This special issue aims to present cutting edge research addressing recent developments in Cloud Computing, Big data, Software Defined Networks, Automation System and Sensors. It contains five previously unpublished papers.

In this issue, the first contribution is by Patra and Goswami proposes studied energy savings of data centers by consolidation and switching off those virtual machines which are not in use. A stochastic model of data centers has been proposed using Queueing theory to take care of the dynamic nature of the data centers. As there exists a trade-off between the performance of the system and the energy consumption a heuristic algorithm has been proposed to find the optimal parameter values. Some numerical results in the form of tables and graphs are discussed to verify the effect of the system parameters on the performance measures.

The second paper is by Majhi and Pal in which they have proposed a breast cancer classification technique. The proposed classification techniques perform preferably good than other methods. Since, they are working on medical data which is very sensitive and requires accurate results as compared to real time systems where time is of essence, they have overlooked the drawbacks related to time.

Mahalik, in the third paper, propose various models to study the decision-making criteria for e-governance in Education system of India. They have shown that the cost is most important factor for consideration for the investment compared to Time and effort. On the other hand, in terms of return, citizen satisfaction is most important compared to others such as response, transparency, decision. The overall result further shows that e-governance system is better that other options in terms of return and investment taken together and the traditional system is better with respect to investment, as it requires less cost, time and effort.

In the fourth paper, Mishra et al., proposed a method for missing value imputation using ANN optimized by genetic algorithm. They have considered the advantageous features of Genetic Algorithm and MLP where the former is used to produce new combination of chromosomes (values) and the latter is used to evaluate the worthiness of those chromosomes in finding the missing values. The proposed method can be applied to all kinds of datasets with missing values which cannot possible by the limited number of available techniques.

The fifth paper, authored by Patel and Dhal presents an empirical study on adoption of ERP on IT and Non-IT companies in Odisha, India. The objective behind the empirical research study is to find out whether the non-IT and IT companies have the same or different perception upon the adoption of ERP within their organization in Odisha.

Finally, we would like to express our sincere appreciation to the authors for submitting their original papers, and to the reviewers who spent time reviewing the papers and provided valuable comments to help the review process for this special issue. At last but not the least, we convey our heartfelt thanks to Editor in Chief, Prof. Lanndon A. Ocampo for his valuable and continuous guidance to make this special issue successful.

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