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## Editorial

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### Sushanta Kumar Panigrahi\*

Department of Information Technology,  
Inter-science Institute of Management and Technology,  
Kantabada, Bhubaneswar, Khurda, Odisha, 752054, India  
Email: sushantapanigrahi@iimt.ac.in  
Email: ctcsushanta@gmail.com

\*Corresponding author

### Jiangyi Du

School of Computer Science,  
Hubei University of Technology,  
No. 28, Nanli Road, Hong-shan District, Wuchang,  
Wuhan, Hubei Province, 430068, China  
Email: jamesdu0504@hotmail.com

**Biographical notes:** Sushanta Kumar Panigrahi received his PhD (Engineering and Information Technology) in Artificial Intelligence and Soft Computing from Fakir Mohan University, Balasore, Odisha, India in 2016. He is currently working as an Associate Professor at Department of Information Technology, I.I.M.T., Bhubaneswar India. His research interests include computational intelligence, soft computing, data science, optimisation techniques, data mining and reengineering.

Jiangyi Du received his MS from the Hubei University of Technology in 2008. He is currently a Lecturer in Hubei University of Technology and pursuing his PhD with the State Key Laboratory of Information Engineering in Surveying Mapping and Remote Sensing, Wuhan University. His research interests include data mining and privacy preservation.

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In the current highly connected and revolutionary internet era, internet of thing (IoT) has been emerging as the next big evolution. As widely envisaged, research works in the field of IoT has been growing rapidly involving almost all the researchers, academicians and industry practitioners from diverse disciplines to ideate and execute concepts, formulations, and prototypes to bring them into reality. The current state-of-art includes attempts being made to connect physically billions of things and objects through sensors, actuators, heterogeneous network access points and the Internet. These objects or things bearing radio frequency identifications (RFIDs) are capable of sensing as per their property and actuating the same as signals or raw data for further processing. These deeply connected objects are broadly referred to as cyber-physical systems (CPS) connected through network of networks. This underlying connectivity of the CPS is responsible for the automatic production of massive amount of effective real-time raw data through continuous sensing and actuating. Next, this massive data collected from heterogeneous sources need to be analysed and mined efficiently to generate valuable insights and correlations among the objects to provide the desired services. However, the research work currently being carried away is not limited only to connectivity but also is being extended to enabling new possibilities, service

paradigms, frameworks, architectures, capabilities and opportunities.

Recent ongoing research in the field of IoT has been extended largely beyond connectivity issues. Although, it is also striving to address the scalability and sustainability issues prevailing in largely connected network architectures. Along with that research is exploring new possibilities by intersecting diverse sectors such as social, environmental and economic sectors with that of IT sector to build sustainable architectures and frameworks for supporting extensive capabilities while creating enormous scope and opportunities. Furthermore, this has lead to the development of a large number of revolutionising emerging technologies including edge computing, fat client, cloud computing, fog computing, green computing, block chain technologies, big data, machine learning, long range transmissions (LoRa), smart objects, smart factories, low power circuits, smart fabrics, wearables, flexible electronics, etc. Also, some of the key research areas include enhancing sensing abilities, optimising energy consumption, managing power supply, addressing data authenticity, privacy and security issues, adoption of new paradigms such as mmWave, hybrid wireless networks, sensor-less sensing, etc. Other research areas include development of effective protocols, localisation and tracking issues, modelling and management of IoT data, supporting various services and applications.

This special issue on ‘Emerging technologies for the internet of things’ makes an effort to feature selected recent most works in the context of the evolution of emerging new technologies for IoT. This showcases original unpublished manuscripts in the area of IoT and its applications from researchers, academicians and industry practitioners to present their investigations, findings and novel concepts. A good number of responses have been received for this special issue out of which only four relevant research works have been shortlisted for publication.

The first paper in this issue entitled ‘Estimating equations under IPW imputation of missing data’ by Wu et al. uses inverse probability weighted (IPW) method for imputation for compensating non-response. They further define parameters by estimation equations and treat missing values with empirical likelihood inference. They also claim the result to be efficient by limiting the EL statistics distribution.

The next paper in the issue specified as ‘Design and realisation of vehicle security and protection system based on multi-task polling processing’ deals with the design and realisation of a vehicle security and protection system. In this paper, Qiao designs the system on the basis of client-server architecture and multi-task polling process. The proposed system is claimed to be stable and capable of remotely monitoring vehicles, its security and fatigue driving along with triggering alarm call if required.

The third paper in the sequence is by Zhang et al. mentioned as ‘Research on key indicators and regional comparison of green data centre’ presents a detailed study on the basic index system of green data centre. It uses PUE, CEI and TCO approaches to make analysis in depth for the factors that affect index of green data centre. Zhang et al. have considered nine aspects for this study which includes annual average temperature, annual precipitation, air quality index, earthquake belt, fixed assets of information transmission enterprises, number of netizens, electricity generation, consumption of the whole society and Internet penetration rate. It is further followed by mathematical modelling, quantitative analysis and evaluation.

The last paper in this issue entitled as ‘New type NP-CSMA of adaptive multi-priority control WSN protocol analysis’ by Han et al. proposes a three-clock NP-CSMA on the basis of variable collision length. It divides packet transmission time and minimises energy consumption thus reducing cost and extending life-time of nodes.

We wish the reader shall get immense benefit out of this special issue to explore further research directions.