



Special Issue for Recent Patents on Engineering

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Convergence of Big Data, Cloud and IoT for Real-Time Applications

Aims & Scope:

In recent few years, enormous growth of IoT objects and cloud-based storage systems has directed towards huge distributed repositories of data. The heterogeneous IoT data created by devices is stored in different databases. In addition, the open IoT framework exploits the incorporation of big data platforms as per the specific application requirements. Particularly, in case of extrapolative methods, the data is continuously gathered through IoT devices and also from open data sources. In this perspective, the convergence of Big Data with IoT needs to address certain technical functionalities. So, the main objective is towards the real time collection of enormous data, combined with data analytics and data automation software. Next, the cognitive analysis of data gathered from IoT devices and sensors. Then, integrating the Big Data and IoT with cloud environment for utilizing various cloud services offered.

Therefore, the Big Data and IoT convergence leads to further discussion of various issues such as

- *What kind of open framework needs to be developed for the amalgamation of Big Data and IoT technologies?*
- *What kind of security, privacy and trust issues will be addressed by the Big Data facilitated through IoT?*
- *What way the convergence of Big Data and IoT will improve the accessibility of conventional communication means?*

Big data technology is already acting as backbone for several cloud computing platforms. For instance, the most popular big data ecosystem i.e. Apache Hadoop, is widely used by various corporate organizations, providing cloud architecture to private data centres. Hence, the amalgamation of Cloud and Big Data Technologies requires next level of mutual strengthening. Now, IoT applications can sense environment and interact with users continuously via several millions of IoT devices across the globe. Such data intensive services require strong backbone of

Big Data technology to handle storage, processing and analysing of these continuously sensed data and user interactions. Also, the framework has to inject the analysis results through user query processing and data visualization mechanisms. Thus, the adoption of Big Data technology continues to be driving force for both Cloud Computing and Internet of Things (IoT) by making platform much convenient and cheaper to access computing resources, storage, networking capabilities for the IoT based applications. Hence, the real power comes when we use all these three technologies together for our better future. This convergence leads to further discussion to find answers to some open problems:

- *What are the current technologies that can further strengthen the convergence of cloud computing, IoT and big data?*
- *What mechanisms are required towards sharing computing resources and data with expanding diverse users?*
- *What new algorithms and techniques are required for converged analytics and data visualization to be performed on large heterogeneous data sources?*
- *What developments are required to provide Analytics as a service (AaaS) for IoT applications based on Big Data and Cloud Computing?*
- *What economics and policies are required to be incorporated for the convergence of big data, cloud computing and IoT technologies.*
- *What new algorithms are required for the data protection and privacy under these converged technologies?*

The primary objective of this special issue is to address the various issues identified pertaining to the convergence of Big Data, IoT and Cloud computing. This special issue will facilitate the research group to publish novel work towards the advancement of three converging technologies in real-time applications.

Keywords:

IoT, Cloud Computing, Big Data, convergence, algorithms, data privacy, data protection, converged analytics, Analytics as a Service.

Subtopics:

- Frameworks integrating Cloud Computing and Big Data in IoT for business and government intelligence
- Data gathering in the convergence of Big Data and Cloud Computing
- Data computing in the convergence of Big Data and Cloud Computing in IoT
- Novel Applications integrating Big Data, Cloud Computing and IoT
- Social cloud computing, IoT and Big Data
- Security techniques that integrate Big Data, Cloud Computing and IoT
- New algorithms and techniques are for converged analytics
- Toward Analytics as a Service (AaaS) through convergence of Big Data, IoT and Cloud Computing
- Economic models and policies for the convergence of big data, cloud computing and IoT technologies

- Towards Internet-of-Everything (IoE): Integrating people, process, data and things
- Machine learning and artificial intelligent systems for modelling & simulation of Big data, IoT and Cloud technologies

Papers submitted for publication for this special issue will be peer reviewed and selected on basis of their quality and relevance to the theme of this special issue. Submitted manuscripts should not have been published previously, nor be under consideration for publication elsewhere. A guide for authors and other relevant information for submission of manuscripts are available on the Instructions for Authors page (<http://benthamscience.com/journals/recent-patents-on-engineering/author-guidelines/#top>).

Please submit your manuscript via email to

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Schedule:

Manuscript Submission Deadline	: 15th January, 2019
Peer Review Date	: 1st Feb, 2019
Revision Due Date	: 20th Feb, 2019
Notification of Acceptance by the Guest Editor's	: 1st March, 2019
Final Manuscript Due	: 10th March, 2019