

# Call for Papers

## Transactions on Emerging Telecommunications Technologies (ETT) Special Issue on Intelligent Resource Management in Cloud Computing and Networking

### Aim and Scope:

Cloud computing, as well as cloud-inspired business models, enables on-demand access to a shared pool of resources, namely computing, storage, networks, services, and applications. With the advent of cloud-based systems, cloud operators have been aiming at reliable, secured, privacy-preserving and cost-efficient cloud design and management. As the cloud infrastructure aims at offering various IT resources as services, requirements of cloud applications vary based on the resources which are requested as services. Thus, the resources may refer to heavy computation resources, massive storage resources, and high-capacity network resources and so on. The heterogeneity of cloud applications leads to the challenge of holistic design of a robust cloud system which can oversee and handle the diverse needs of numerous types of applications. On the other hand, these challenges enforce cooperation of various players in the cloud system, each of which focuses on a different segment such as computing, network, applications, and systems.

Regarding the above challenges, the recent success of machine learning in different domains imply the possibility of introducing the machine learning technologies into the cloud resource management. For example, instead of traditional model-based optimization, it is possible to apply reinforcement learning to enable data-driven intelligent resource allocation and management. On the other hand, the machine learning technologies themselves introduce new resource demand characteristics. As a result, the cloud and networking resource provision shall be customized according to the machine learning requirements and characteristics.

### Topics of Interest:

The topics relevant to this special issue include but are not limited to:

- Cloud computing system and network design
- Cloud network protocol design and management
- Optimization for cloud computing, networking, and applications
- Green cloud system design

- Cloud storage design and networking
- Cloud system and storage security
- Cloud network virtualization techniques
- Modeling for cloud system, network and storage
- Performance analysis for cloud system, network and storage
- Big data storage and networking in the Clouds
- Intra-cloud computing and networking
- Mobile Cloud system design
- Cloud media and storage design
- Real-time resource reporting and monitoring for cloud management
- Cloud system interoperability
- Cloud data center design
- Utility computing solutions in Cloud systems
- Cloud forensics
- Networking for cloud computing
- Data mining and diagnosis for cloud computing
- Edge, fog, and mobile edge computing
- Security, privacy, trust for cloud computing
- AI based resource capacity prediction
- Traffic engineering and congestion control
- Data-driven network analysis and measurement
- Networking for machine learning systems
- Resource management for machine learning in cloud

Papers must be tailored to the problems of cloud computing and networking, and explicitly consider artificial intelligence technologies. The editors maintain the right to reject papers they deem to be out of scope of this special issue. Only originally unpublished contributions and invited articles will be considered for the issue. The papers should be formatted according to the ETT guidelines ([http://onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)1541-8251/homepage/ForAuthors.html](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1541-8251/homepage/ForAuthors.html)). Authors should submit a PDF version of their complete manuscript via Manuscriptcentral (<http://mc.manuscriptcentral.com/ett>) according to the timetable below.

## **Important Dates:**

Submission deadline: March 31, 2019

Author Notification: May 31, 2019

Final Manuscript: June 30, 2019

Publication: Q4 2019

## **Guest Editors:**

Deze Zeng, China University of Geosciences, Wuhan, China

Ruidong Li, NICT, Japan

Zhi Zhou, Sun Yat-sen University, China

Ruiting Zhou, Wuhan University, China

Rami Langar, University Paris Est, France

Md Zakirul Alam Bhuiyan, Fordham University, USA