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Peer-to-Peer Networking and Applications

Call for Papers

Special Issue on Fog/Edge Networking for Multimedia Applications

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Aims and Scopes

Technological advancements have enabled emerging multimedia applications, which require massive devices with real-time communication, computation, and control. However, many end devices are characterized by limited resources, which identify significant challenges for these devices to provide multimedia services effectively. The traditional cloud Networking paradigm as the de facto centralized big data processing platform is not efficient enough to support many emerging multimedia applications with QoS/QoE/QoI constraints.

Nowadays, fog/edge Networking has become a promising paradigm for multimedia systems. The basic idea is to leverage a multitude of collaborative end devices and near-user infrastructures to carry out a substantial amount of computation, storage, and communication tasks, for enabling low latency, energy efficiency as well as agile computation augmenting services for multimedia. Despite the many benefits and opportunities fog/edge Networking offers, there are several research and technical challenges that need attention from the research community. Some of these challenges include: how to design an efficient fog/edge Networking based multimedia Networking framework, how to make multimedia systems more intelligent, how to achieve the efficient multimedia data processing and distribution with edge/fog Networking, and how to design an efficient incentive mechanism for performance enhancement.

This special issue focuses on recent advances in architecture, algorithms, optimization, and models for multimedia fog/edge Networking systems. Original, unpublished contributions and invited articles, reflecting various aspects of multimedia systems with fog/edge Networking are encouraged. The topics of interest for the special issue include, but are not limited to:

- Fog/edge Networking based multimedia Networking framework
- Fog/edge Networking based intelligent multimedia systems
- Incentive mechanism for fog/edge networking based multimedia applications
- Mobility, connectivity, heterogeneity support for edge/fog multimedia services
- Sensing and aggregation of multimodal data with fog/edge Networking
- Fog/edge Networking support for multimedia QoS/QoE/QoI enhancement
- Multimedia IoT-Fog services
- Analysis of multimedia traffic characteristics in network edge nodes
- Integration of machine learning on multimedia Networking in network edge nodes
- Fog/edge multimedia encoding/decoding/processing
- Fog/edge multimedia content distribution
- Resource allocation in multimedia fog/edge Networking systems
- Security and privacy in multimedia fog/edge Networking systems
- Fog/edge Networking support for real-time surveillance and monitoring
- Emerging multimedia services and applications with fog/edge Networking
Important Dates:

Paper submission due: Nov. 30, 2018
First notification: Feb. 01, 2019
Revision: April 01, 2019
Final decision: May. 15, 2019
Publication date: in 2019

Manuscript Submission:

The authors should visit [www.springer.com/12083](http://www.springer.com/12083) for information on paper submission. Prospective authors should submit an electronic copy of their complete manuscript through the Editorial Manager system at [http://www.editorialmanager.com/PPNA](http://www.editorialmanager.com/PPNA) using the article type: “SI: Fog/Edge Networking for Multimedia Applications.” Manuscripts will be peer reviewed according to the standard of *Peer-to-Peer Networking and Applications*.

CV for guest editors:

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Short CV (incl list of at most 5 publications related to the SI proposal):

Yong Jin is a Lecturer of School of Computer Science and Engineering, Changshu Institute of Technology, Changshu, China. His research interests include mobile ad hoc networks, wireless sensor networks, error control protocols, and QoS.

Dr. Yong Jin was the lead guest editor for Special Issue on Mobile Multimedia Big Data Communication Systems (MBDC) in Journal of Communications and for Special Issue on Mobile Multimedia Big Data Embedded Systems in EURASIP Journal on Embedded Systems. He was also the guest editor for Special Issue on Mobile Multimedia Cloud Networking in EURASIP Journal on Wireless Communications and Networking and mass cooperative transmission and QoS supported mechanism in wireless sensor networks in International Journal of distributed sensor networks.


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Daniele D'Agostino, Ph.D., is a researcher at the Institute of Applied Mathematics and Information
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Hang Shen received his Ph.D from the College of Computer Science and Engineering, Nanjing University of Science and Technology, China. His research interests include mobile ad hoc networks, routing protocols, and QoS.


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Dr. James Nightingale is a Postdoctoral Research Associate with the Audio-Visual Communications & Networks (AVCN) Research Centre, working on the EPSRC funded project Enabler for next-generation mobile video applications (EP/J014729/1). His research interests include mobile networks, multihoming and video streaming techniques. He is a member of the IET and IEEE. He received the BSc degree in Network Networking from Edinburgh Napier University, UK with distinction and as winner of the Napier Medal for Outstanding Achievement, and the BSc (Honours) degree in Computer Networks from the University of the West of Scotland (UWS), UK with First Class Honours and won the Best Honours Dissertation Prize. He received his PhD from UWS, with Outstanding Progression Award.
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