International Journal of Network Management

*Special Issue of the International Journal of Network Management (IJNM) on*

***Learning-driven Ubiquitous Mobile Edge Computing: Network Management Challenges for Future Generation IoT***

**Call for Papers**

**Scope of the Special Issue**

Ubiquitous Edge Computing facilitates efficient cloud services near mobile devices, enabling Mobile Edge Computing (MEC) to offer services more efficiently by presenting storage and processing capability within the proximity of mobile devices and in general IoT domains. However, compared with conventional mobile cloud computing, ubiquitous mobile edge computing introduces numerous complex challenges due to the heterogeneous smart devices, network infrastructures, and limited transmission bandwidth. Processing and managing such massive volumes of data generated from these devices is complex and challenging in edge infrastructures. On the other side, time-critical applications have stringent requirements such as ultra-low-latency, energy cost, mobility, resource, and security issues that cannot be neglected. For example, smart healthcare or industrial networks generate emergency information very frequently (i.e., often in terms of milliseconds), which needs to be processed near the sensing devices with minimal processing delay. In this context, future generation IoT requires robust and intelligent network management approaches that can handle the system complexity (e.g., scalability, orchestration, etc.) with little or no little human intervention and offer a better service to end-users. More precisely, AI/ML approaches designed explicitly for networks under high traffic volume of data help overcome several management challenges, such as (i) improving performance by balancing load and traffic, (ii) distributing the bandwidth spectrum based on demand, and (iii) traffic predictions. Moreover, this need also opens several new research directions such as new MEC architecture, service provisioning technique, security mechanism, advanced 5G or beyond communication technology, ambient intelligence, and AI/ML-based solutions.

This issue aims to cover all the emerging trends and technologies on ubiquitous MEC for future generation IoT networks and their managements. The papers related to machine learning, deep learning, optimization, blockchain, 5G, or beyond solutions, especially for domain-specific IoT network management, which use MEC environments, are strongly encouraged for this issue. The proposed special issue aims to attract, collate, and archive high-quality original research works from academic researchers and industry practitioners in these novel areas. It also aims to provide worldwide researchers and practitioners with an ideal platform to innovate new solutions targeting vital challenges.

We invite the submission of high-quality papers related to one or more of the following topics:

- Ultra-reliable and low latency communication protocol for MEC system
- Zero-touch provisioning for IoT configuration and Service management
- Learning-driven Fog/Edge for low latency, high transfer rates, and traffic prediction in MEC
- Learning-driven Fog/Edge enabled caching techniques for MEC
- Learning-driven heterogeneous green Edge network and service management
- Novel privacy mechanisms and security protocols for MEC networks
- Collaborative AI-enabled approaches for IoT network management
- Learning-driven Advanced/hybrid energy harvesting techniques for MEC
- Blockchain-enabled IoT/Edge network management and service provisioning
- Smart protocols and intelligent frameworks for IoT/Edge network management.
- Learning-driven advanced mobility management scheme for MEC
- AI-enabled network virtualization for IoT/Edge systems
- Learning-driven Intent-based IoT/Edge system's performance management

**Submission Guidelines**

Authors must submit their papers in PDF format to https://wiley.atyponrex.com/journal/NEM. Submissions should not exceed 20 pages. Author instructions are available here and the LaTeX template can be found here. All submissions will be peer-reviewed. In case of acceptance, the camera-ready version has to consider reviewers' comments and must follow the template's requirements.

**Important Deadlines**

- ✓ **Submissions close**: January 31, 2023
- ✓ **Reviewing**: Continuous basis
- ✓ **Acceptance Notification**: May 31, 2023
- ✓ **Final Manuscript Due**: August 31, 2023
- ✓ **Publication Date**: November 30, 2023

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