

# **Towards Efficient and Flexible Orchestration of 5G Slicing and Edge Computing**

5G slicing and edge computing has been experiencing rapid development. However, the potential of new applications, such as VR/AR and Industrial Internet of Things (IIoT) is still limited by the efficiency of network architecture for the stringent quality-of-service (QoS) requirements that the underlying network can provide. 5G coupled with network slicing and edge computing technologies, is a promising networking solution for these applications and offers many advantages for network operators, such as customized service accommodation, local computation. However, it essentially faces many challenges in orchestration of slicing and edge computing. For example, different applications have different QoS requirements, real-time remote control requires stringent latency guarantee; VR/AR requires high bandwidth. Thus, orchestration of slicing and computing resources to meet different QoS requirements of applications becomes complex. Besides, the applications may frequently change their requirements, resulting in the inefficiency in resource orchestration. For example, autonomous cars in factories need different levels of latency-guaranteed services when driving at different speeds. Under this situation, Artificial Intelligence (AI) and Machine Learning (ML) can be used to improve the performance of orchestration.

This is a special session of the 22nd IEEE International Conference on High Performance Computing and Communications (<http://cse.stfx.ca/~hpcc/2020/index.html>). Please submit your paper via the submission site (<http://edas.info/N27662>) and select the special session of “Special Session 2: Towards Efficient and Flexible Orchestration of 5G Slicing and Edge Computing” .

Accepted papers of this special session will be published by IEEE Computer Society Press (indexed by EI). Selected papers, after further extensions and revisions, will be recommended to journal special issues. More details at the conference website:

<http://cse.stfx.ca/~cybermatics/2020/cpscom/index.php>

## **Topic of Interest:**

This special session is targeted at the above issues related to efficient and flexible orchestration of 5G Slicing and edge computing. Topics of interest for this special session, include, but are not limited to the following:

Network Slicing architectures and deployment practices

QoE-aware and QoE-oriented slicing

Virtualization and management of 5G MEC

Mobile Edge Computing and service optimization

AI-empowered orchestration and control of 5G slicing and edge computing

Federated learning based 5G MEC services

Orchestration of resources, services and functions in SDN and NFV  
Privacy, security and trust in network slicing and edge computing  
Secure and privacy-preserving authentication for 5G slicing and edge computing  
Privacy-preserving data aggregation and analysis in edge computing  
Blockchain-assisted network slicing and edge computing

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