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Track 2 – Cloud & Fog/Edge Computing and Networking

Track Chairs:

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Scope and Motivation:

The rapid evolution in computing and communication technologies in the recent past has revolutionized the accessibility and location of applications, data storage, and processing resources. For efficient computing resource sharing and ubiquitous connections from any network end devices with limited computing capability, the cloud computing paradigm which focuses on centralized, reliable, and cost-effective computing, software, storage, and virtualization of the hardware resources has been prevalent and widely adopted. However, as some online or real-time interactive applications require a quick and timely response from the computing center, some small computing centers need to be set up close to the end devices to guarantee a low latency and a limited jitter. These small computing centers close to the end devices form the fog computing paradigm. Moreover, for some applications it is necessary that the main computing power shall be pushed toward the edge of the core network or even the end devices, i.e., the edge computing. A hierarchical architecture or hybrid design of cloud, fog and edge computing maybe the solution to fit the various applications and use cases. However, the realization of these computing paradigms or their hybrid design is really challenging, including the modeling, analysis, implementation, design, and evaluation of the architecture, protocols, algorithms, computing, communication, control, energy consumption, delay, and other techniques.

Main Topics of Interest:

- Cloud network operating systems
- Data center network management
- Cloud traffic characterization and measurements
- Intra-cloud and inter-cloud management
- Communication and networking protocols for fog and cloud
- Cloud and edge computing architectures
- QoS constrained solutions for fog and cloud applications
- Energy efficient communication and computing techniques for fog and cloud
- Access control strategies for fog
- Security and privacy in cloud and fog
- Mission-Critical Edge Computing
- Hybrid Clouds in Edge Computing
- Mobile Cloud Networking
- Mobile Edge Computing
- Resource arrangement/allocation/migration in cloud/fog/edge computing centers
- Hierarchical architecture or hybrid design amid cloud/fog/edge computing centers
- Machine Learning/ Deep Learning for cloud/fog/edge computing
- The hybrid design of cloud/fog/edge computing for AI and Machine Learning applications

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