Communication QoS, Reliability and Modeling Symposium

Co-Chairs

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Scope and Motivation

In the last decade, communication quality, network reliability and performance have become of utmost importance to ensure smooth operation of a wide range of modern and futuristic network applications that have stringent requirements in terms of Quality of Service/Experience (QoS/QoE) and reliability.

In this context, the Communication QoS, Reliability and Modeling (CQRM) Symposium aims at providing an international venue to discuss recent research advances in communications service provisioning, QoS/QoE technologies, modeling and formal methods, and analytical and experimental techniques to allow the design of high-performance and reliable communication networks and protocols, technologies, and infrastructures. Specifically, the goal of this symposium is to address the key challenges to address in order to ensure the required level of QoS, resiliency, security, and reliability for existing and futuristic networks that are heterogeneous in nature, size, and type of applications and transmitted data.

Topics of Interest

Original research articles are solicited in, but not limited to, the following topics:

- AI/ML to enhance QoS/QoE
- Cross-layer modeling, design, and optimization
- Design and evaluation of energy-efficient networks and services
- Design and evaluation of Software Defined Networking (SDN) and Network Function Virtualization (NFV)
- Design and evaluation of microservices-based networking for 5G/6G-enabled edge networks
- Design and evaluation of application/service-oriented networking
- Design and integration of multi-domain multi-tenant 5G/6G platforms
- Design and performance evaluation of AI/ML-enabled networks
- Design and scalability of smart city, smart home, and crowd sensing applications
- Formal verification methods for QoS and reliability
- Integrated control of network and computing resources to enhance QoS/QoE
- Integration of objects, devices and systems for Industry 4.0 and Society 5.0 applications

- IoT Platforms, integration and service provisioning
- Innovative modeling techniques for large-scale emerging network technologies
- Metrics and Models for Quality of Experience (QoE) and Quality of Service (QoS)
- Reliability and models for multimedia streaming, adaptive streaming, MPEG-DASH, HTTP 2.0, and HTTP 3.0
- Network design, operation, management, and automation for maximizing QoS/QoE
- Network slicing and resource allocation for radio access and core networks
- Network traffic characterization, measurement, and monitoring Techniques
- Performance evaluation of smart grid communications and demand response techniques
- Performance evaluation and modelling of Internet of Vehicles and 5G NR-based V2X network
- Performance evaluation techniques including modeling, simulations and testbeds for communication networks
- Protocol design and performance evaluation of new RAN architectures
- QoS and performance modelling of UAV-assisted Wireless Networks
- QoS provisioning for massive machine-type communications and in IoT networks
- Quality and performance in grid, distributed and cloud computing
- Quality and performance in overlay (including peer-to-peer) networks
- Quality in multimedia networks including VoLTE, VoNR, IPTV, and gaming
- Quality and performance in beyond 5G/6G wireless and mobile networks
- Quality and performance of Multi-access Edge Computing (MEC) and fog computing solutions
- Quality and performance of SDN/NFV handoff management for edge computing in 5G
- Quality and performance of kernel-bypassing approaches for communication support
- Quality, measurements, and performance in IoT and big data platforms and applications
- Quality, measurements, and performance in cyber-physical systems
- Quality, scalability and performance in the Internet and in massive IoT networks
- Security, reliability, privacy and trust by design and performance evaluation
- Scalability, robustness, and resilience
- Standardization aspects of QoS and reliability
- URLLC and dependable communication networks

Biographies of the Co-Chairs

Hideyuki Shimonishi is a professor at Osaka University, Japan. He had been engaged in the research and commercialization of Software-Defined Networking (SDN) and Network Functions Virtualization (NFV) in their very early stages at NEC Corp. His research interests include Digital Twin, AI/ML, and Beyond 5G/6G network technologies. He is a fellow of IEICE Japan and a visiting senior principal researcher at NEC Corp.

Shahid Mumtaz is full professor at Nottingham Trent University, UK and principal researcher at Instituto de Telecomunicações, Aveiro Portugal. He an IET Fellow and IEEE ComSoc/VTS Distinguished speaker. He is the author of 4 technical books, 12 book chapters, 300+ technical papers (200+ IEEE Journals/transactions and 100+ conference. His research interests include Digital Twin, AI/ML and resource allocation for 5G/6G network.

Mohamed Faten Zhani is a professor with the department of Computer Science at the Institut Supérieur d'Informatique et des Techniques de Communication (ISITCom, University of Sousse) in Tunisia. He is a senior IEEE member. His research interests include future Internet technologies, cloud computing, network function virtualization, software-defined networking and resource management in large-scale distributed systems.

How to Submit a Paper

All papers for technical symposia should be submitted via EDAS. Full instructions on how to submit papers and important deadlines are posted at https://globecom2023.ieee-globecom.org/