Communication Software and Multimedia Symposium

Co-Chairs

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Scope and Motivation

Communication networks have evolved from physical networks to primarily software and virtual networks. This has made it easier to develop and implement new services considering the emerging technologies such as AI. This symposium aims to present state-of-the-art research and development concerning the complex and difficult problems pertaining to software design, deployment, delivery, and administration of services and multimedia applications. This symposium offers a special forum for specialists from academia and business to debate current and upcoming developments in multimedia technologies and communication software, exchange expertise, and present their most recent research.

Topics of Interest

The Communication Software and Multimedia Symposium covers challenges and advances for network softwarization and enablement, service delivery, management, and multimedia applications in fixed and mobile communication networks. The following subjects are open to original submissions for the symposium:

Quality in Services and Multimedia Applications

- Network Function Virtualization (NFV) and its Impact on Service Delivery
- Software-Defined Networking (SDN) for Enhanced Network Services
- 5G and Beyond: Leveraging Network Softwarization for Improved Services
- Edge Computing in Network Softwarization: Challenges and Opportunities
- Cloud-Native Network Architectures and Service Automation
- Security Challenges in Network Softwarization and Virtualized Environments
- AI-Driven Automation in Network Softwarization for Efficient Service Management
- Orchestration of Network Services in Softwarized Environments
- Service Chaining and Resource Allocation in Virtualized Networks
- QoS and QoE in Software-Defined and Virtualized Networks
- Zero-Touch Service Management in Softwarized Networks
- Energy-Efficient Network Softwarization for Sustainable Services
- Multi-Access Edge Computing (MEC) for Low-Latency Services
- Enhancing User Experience in Multimedia Applications
- Quality of Service (QoS) Management in Cloud-Based Services
- AI-Driven Quality Optimization in Streaming Services
- Quality of Experience (QoE) in Augmented and Virtual Reality Applications

- Latency Reduction Techniques for Real-Time Multimedia Applications
- Quality Assurance in 5G-Enabled Multimedia Services
- End-to-End Quality Management in IoT Services
- Adaptive Multimedia Streaming for Mobile Devices
- Improving Video and Audio Quality through Machine Learning
- Energy-Efficient Quality Optimization in IoT Networks
- Security as a Quality Factor in Multimedia Applications
- Optimizing Real-Time Data Processing for High-Quality Services
- Cloud and Edge Computing for Enhanced Multimedia Quality
- Automated Quality Assessment in Digital Services
- Privacy-Preserving Quality Monitoring in Online Services
- Content Delivery Networks (CDN) and Multimedia Quality
- Improving User-Centric Quality in Smart City Services

Network Softwarization & Intelligent Services

- Network Function Virtualization (NFV) and its Impact on Service Delivery
- Software-Defined Networking (SDN) for Enhanced Network Services
- 5G and Beyond: Leveraging Network Softwarization for Improved Services
- Edge Computing in Network Softwarization: Challenges and Opportunities
- Cloud-Native Network Architectures and Service Automation
- Security Challenges in Network Softwarization and Virtualized Environments
- AI-Driven Automation in Network Softwarization for Efficient Service Management
- Orchestration of Network Services in Softwarized Environments
- Service Chaining and Resource Allocation in Virtualized Networks
- QoS and QoE in Software-Defined and Virtualized Networks
- Zero-Touch Service Management in Softwarized Networks
- Energy-Efficient Network Softwarization for Sustainable Services
- Multi-Access Edge Computing (MEC) for Low-Latency Services
- Interoperability and Standardization in Network Softwarization

Multimedia Systems and Services

- Real-Time Multimedia Streaming and Optimization
- Multimedia streaming, multicast and broadcast services
- • Virtual/augmented/mixed reality
- 360-degree video streaming
- Immersive Multimedia Experiences in VR/AR/MR
- Multimedia Content Adaptation for Diverse Platforms
- AI and Machine Learning in Multimedia Systems
- Multimedia Compression Techniques and Standards
- Content Delivery Networks (CDNs) for Multimedia Services
- Interactive Multimedia Systems and Applications
- Multimedia Systems for Smart Cities and IoT
- Cloud-Based Multimedia Services and Scalability
- 5G and Beyond for Enhanced Multimedia Services
- Edge Computing for Low-Latency Multimedia Processing
- Security and Privacy in Multimedia Systems
- Multimedia Systems for E-Learning and Remote Collaboration
- Adaptive Quality of Service (QoS) in Multimedia Services
- Multimedia Systems for Telemedicine and Healthcare Applications
- Blockchain for Secure Multimedia Content Delivery
- Audio-Visual Synchronization in Multimedia Systems
- Crowdsourced Multimedia Content and Service Quality
- Future Trends in Interactive and Social Multimedia Systems

Service Management

- AI-Driven Service Management Automation
- Cloud Service Management and Optimization
- Service Management in Multi-Cloud Environments
- Predictive Analytics in Service Management
- Service Lifecycle Management in IoT Ecosystems
- Blockchain for Transparent Service Management
- Managing Quality of Experience (QoE) in Digital Services
- Incident and Problem Management in IT Services
- Service Management for 5G and Next-Gen Networks
- Sustainability and Green IT Service Management
- Data-Driven Decision-Making in Service Management

Biographies of the Co-Chairs

Safa Otoum is an assistant professor of computer engineering in the College of Technological Innovation (CTI), Zayed University, United Arab Emirates and a researcher in the field of communications and networks security. Prior to joining the CTI, she was a postdoctoral fellow at the University of Ottawa and has been a data scientist in Cheetah Networks Inc. Ottawa since 2019. She received her M.A.Sc., and Ph.D. degrees in computer engineering from the University of Ottawa, Canada, in 2015 and 2019, respectively. She is actively working on several reputable events within IEEE and ACM. Her research interests include networks security, Blockchain Applications, Applications of ML and AI, IoT, Intrusion Detection and Prevention Systems. She received several academic and research scholarships, including the prestigious NSERC Canada Graduate Scholarships-Doctoral, the NSERC FSS, RIF-Zayed University, ASPIRE Visiting Professorship Award (VPC), and TII-ZU grants. Currently, she is an IEEE member and a Professional Engineer (P.Eng.) Ontario.

Zhi Wang is currently an associate professor at Shenzhen International Graduate School, Tsinghua University. He received his Ph.D. in 2014 and his B.E. in 2008, both from Tsinghua University. His research areas include multimedia networks, mobile cloud computing, and large-scale machine learning systems. He was a recipient of the Natural Science Award of the Ministry of Education (First Prize) in 2017, the National Natural Science Award (Second Prize) in 2018, the Shenzhen Youth Science and Technology Award in 2019, and the Technology Invention Award of the Chinese Institute of Electronics (First Prize) in 2020. In addition, his research won the Best Paper Award of ACM Multimedia, the Best Paper Award of IEEE Transactions on Multimedia, the Outstanding Doctoral Thesis Award of China Computer Federation, the Best Student Paper Award of MMM, and the Best Paper Award of ACM Multimedia, HUMA Workshop. He is an Associate Editor of IEEE TMM and Guest Editor of ACM TIST and JCST. His research has been covered by prestigious technology media, including MIT Technology Review and Synced Review.

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://icc2025.ieee-icc.org/

The authors of selected papers from this symposium will be invited to submit an extended version of their work for fast-track review and possible publication in the IEEE Open Journal of the Communications Society.