ALIS'22: 1st ACM Multimedia Workshop on

Artificial Intelligence for Live Video Streaming

Delivering video content from a video server to viewers over the Internet is time-consuming in the streaming workflow and has to be handled to offer an uninterrupted streaming experience. The delay is particularly problematic for live streaming. Some streaming-based applications such as virtual events, online learning, webinars, and all-hands meetings require low latency for their operation. Video streaming is ubiquitous in a plethora of applications, devices, and fields. Delivering high Quality of Experience (QoE) to the streaming viewers is of crucial importance, while the requirement to process a large amount of data in order to satisfy such QoE cannot be handled with human-constrained possibilities. Artificial Intelligence (AI) and Machine Learning (ML) techniques can be leveraged to calculate expected network data rates, predict requested video contents and thus, perform content-aware encoding, predict flash crowd formation that impacts the overall network traffic, enable personalized content processing and recommendations on the cloud, understand a user's viewing behavior, and enable more informed video caching decisions, and in several other ways. The first workshop on Artificial Intelligence for Video Streaming (ALIS2022) aims to bring together researchers and developers to satisfy the data-intensive processing requirements and QoE challenges of live video streaming applications through leveraging AI-based approaches. We warmly invite the submission of original, previously unpublished papers addressing key issues in this area, but not limited to:

- AI-based resource allocation for live streaming
- Using AI/ML techniques for optimizing Interactive Streaming and User-Generated Content
- The tradeoff between QoE enhancement and network overhead: AI approaches
- Using AI/ML at the network edge and the cloud for supporting video streaming
- AI/ML-enabled caching of video chunks
- Experience and lessons learned by deploying AI/ML algorithms for large-scale network-assisted video streaming
- Design, analysis, and evaluation of AI-based Adaptive Bitrate (ABR) algorithms for video streaming
- Network aspects in video streaming: cloud computing, virtualization techniques, network control, and management, including SDN, NFV, and network programmability
- AI/ML-based solutions for supporting streaming applications high-speed user mobility
- Analysis, modeling, and experimentation of WebRTC, Low-Latency DASH, and Low-Latency CMAF for DASH
- Reproducible research in adaptive video streaming: datasets, evaluation methods, benchmarking, standardization efforts, open-source tools
- AI/ML-based techniques for live streaming in 5G and 6G networks
- AI/ML-based techniques for improving infotainment QoE in automotive applications.

❖ ALIS'22 Co-Chairs

➔ Farzad Tashtarian,
Alpen-Adria-Universität Klagenfurt, Austria

➔ Eirini Liotou,
Institute of Communication & Computer Systems (ICCS), Athens, Greece

➔ Mohsen Amini Salehi,
University of Louisiana at Lafayette, USA

➔ Christian Timmerer,
Alpen-Adria-Universität Klagenfurt, Austria

❖ Important Dates

Paper Submission	Jun. 20, 2022
Notification of Acceptance:	Jul. 29, 2022
Camera-ready:	Aug. 21, 2022

❖ Submission Instruction

Solicited submissions include both full technical workshop papers and white paper position papers. The maximum length of such submissions is up to 6 pages (excluding references) in 2-column 10pt ACM format.
Papers must include author names and affiliations for single-blind peer reviewing by the program committee. Authors of accepted submissions are expected to present and discuss their work at the workshop. Register and submit your paper here.

❖ Contact Us

Any questions regarding submission issues should be directed to **alis22@itec.aau.at**