The 4th International Conference on Deep Learning, Artificial Intelligence and Robotics, (ICDLAIR) 2022

Special Session on Artificial Intelligence Assisted Video Processing

Recent developments in Artificial Intelligence (AI) have shown great promise in a variety of fields including computer vision, speech recognition, and natural language processing. It uses deep neural network architecture models to learn hierarchical data representations. Deep Learning (DL) is frequently used in applications such as text sentiment analysis, communication signal analysis, audio recognition, regression problems, image classification, and pattern recognition. In addition to this, video data is another fascinating data type. However, the large size and dimensions of video data make them attractive for research as well. YouTube receives millions of video uploads every day, making it a valuable source of data that has facilitated AI research. Despite having rich data, video data is difficult to analyse and handle due to its large file sizes and complexity. After numerous DL algorithms were created for video processing for diverse applications, research on video processing utilising AI became more and more prominent.

Video data is a sequence of time-varying images and popular choices of users of different platforms like Twitter, YouTube, and Facebook. In the video data, the image information is digitized both spatially and temporally and the resultant pixel intensities are quantized. Today, the majority of fundamental computer vision research concentrates more on single images than on sequences of images, such as video frames. However, video data provides deeper situational understanding because a series of images gives motion information about the subject. As an illustration, we may estimate an object's upcoming move by tracking it through an optical flow of the series of images. Digital video processing is hence the capability to automatically analyse video, frame by frame or shot by shot, to detect and determine temporal and spatial elements in the context of computer vision.

The goal of this special session is to gather novel contributions (either academicians or industry professionals) on AI and deep learning techniques applied to video processing that advance the field across a diverse cross-section of application domains.

Topics of interest include but are not limited to:

- Video Enhancement
- Abnormal/ Video-based Human Activity Recognition
- Adversarial techniques for anomaly detection
- Gait Analysis, Fall Detection
- Video-based Covid Patient monitoring
- Video key frame/ event detection and summarization
- Video Captioning
- Deep learning architecture for video stabilization
- High-performance computing for deep learning-based video processing
- Deep learning in video interpretation
- Deep learning in Video classification/target recognition/ video detection/tracking
- Healthcare application of Deep Learning and Video Processing

Important Dates:

- Paper submission due: 30-09-2022
- Notification: 15-10-2022
- Camera Ready: 31-10-2022

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