

SPECIAL SESSION SS21: Machine Learning and Deep Learning models for Computer Vision

Organizers:

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The goal of computer vision is to extract meaningful information from digital images and videos. Complex computer vision tasks deal with many real-life problems such as image and video recognition, image classification and annotation, object recognition and image search, motion estimation, object tracking and human action recognition. The more advanced applications of computer vision rely on image stylization, editing and new image generation. The evolution of machine learning and deep learning methods added a huge boost to the rapidly developing field of computer vision by changing the conventional statistical methods used for solving various problems.

The use of deep convolutional neural networks combined with recurrent models for image caption generation and visual question generation are some of the problems which cannot be solved with conventional programming techniques. The design of new and effective machine/deep learning models and identification of the optimal hyper-parameters of the resulting models require profound domain knowledge. The superior search capabilities of deep/machine learning based algorithms can be exploited to tackle such optimization problems.

This special session of ICSTCEE-2020 will provide a premier platform for disseminating research results covering a broad variety of topics in the areas of image – video analysis and a variety of applications in machine intelligence. The session aims to bring together researchers and engineers from all related areas on the fundamental theories, models, and technological solutions in terms of machine learning and deep learning models for computer vision.

Topics of Interest include, but are not limited to...

- Image/ Video Classification
- Object Detection and Recognition from image/ videos
- Object Segmentation from image/ videos
- Image/ Video Style Transfer
- Image/ Video Colorization
- Image/ Video Reconstruction

- Image/ Video Super-Resolution
- Image/ Video Synthesis
- Image Description Generation
- Visual Question Generation
- Visual Saliency Detection
- Image/ Video Retrieval
- Facial Expression Recognition and Age Estimation
- Human Action Recognition
- Disease Identification from Medical Images
- Deep Neural Network Generation for Computer Vision Problems
- Ensemble Learning Models
- Hyper parameter Tuning
- Classification/ Regression Algorithms