

**Special Session
on**

(“Machine Learning in Visual Communication & Image Representation”)

AIM: This special session emphasizes the extent to which **Machine Learning in Visual Communication & Image Representation** can help specialists in understanding and analyzing complex images. The field of visual communication and image representation is considered in its broadest sense and covers both digital and analog aspects as well as processing and communication in biological visual systems. It focuses on methodologies for extracting useful knowledge from images, and on the progress of diverse disciplines such as artificial intelligence, machine learning, medical imaging, and other related topics.

SCOPE: The scope is to establish an effective communication channel between researchers, developers, and professionals from both academia and the industry so that they can report the latest scientific and theoretical advances in Visual Communication & Image Representation. It also aims to reveal useful information to specialists, allowing them to extract implicit knowledge, uncover new relationships and the like which are not explicitly expressed in images. Developments in this field will help to intensify interdisciplinary discovery.

Topics of Interest: The topics of interest include but are not limited to:

- Image Segmentation
- Image Pre processing
- Image Classification
- Medical image and signal analysis
- Deep Learning Applications
- Volumetric image analysis
- Data mining of biological databases
- Image indexing
- Image clustering
- Biomedical information retrieval
- Biomedical information extraction
- Relation extraction in biological databases
- Content-based image retrieval and image mining
- Semantic-based image mining
- Image mining in medical and healthcare informatics
- Pattern recognition techniques in the image mining environment

- Fractals and mathematical morphology
- Image understanding and scene analysis
- Deterministic and stochastic image modeling
- Visual data reduction and compression
- Image coding and video communication
- Local and global schemes of image representation
- Analog and digital image processing
- Biological and medical imaging
- Early processing in biological visual systems
- Feature extraction and selection from high dimension data

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