

ICIP 2012 EDICS

1: Image & Video Sensing, Modeling, and Representation

1.1: SMR-SEN

- 1.1.1*: Scanning, Sampling and quantization
- 1.1.2*: Sensor systems and distributed sensing
- 1.1.3*: Video stabilization and autofocus
- 1.1.4*: Intrinsic and extrinsic camera model estimation
- 1.1.5*: Coded aperture systems
- 1.1.6*: Omnidirectional imaging and plenoptics

1.2: SMR-SMD

- 1.2.1*: System and image-prior modeling
- 1.2.2*: Doubly-stochastic models
- 1.2.3*: Bayesian methods
- 1.2.4*: Statistical regularization techniques
- 1.2.5*: Model selection
- 1.2.6*: Algorithms for iterative and recursive estimation
- 1.2.7*: Noise and system models
- 1.2.8*: Natural image models

1.3: SMR-STM

- 1.3.1*: Morphological models
- 1.3.2*: Graphical and tree-based models
- 1.3.3*: Semantic models

1.4: SMR-REP

- 1.4.1*: Multi-scale and multi-orientation representation
- 1.4.2*: Geometry and texture representation
- 1.4.3*: Object based representation
- 1.4.4*: Hierarchical representation
- 1.4.5*: Sparse representation

1.5: SMR-HPM

- 1.5.1*: Human visual system modeling
- 1.5.2*: Perceptually optimized algorithms and methods
- 1.5.3*: Quality metrics and assessment tools

2: Image & Video Processing Techniques

2.1: TEC-PRC

- 2.1.1*: Linear and nonlinear filtering
- 2.1.2*: Morphological filtering

- 2.1.3*: Regression techniques
- 2.2: TEC-PDE
 - 2.2.1*: Level set methods
 - 2.2.2*: Anisotropic diffusion
- 2.3: TEC-MRS
 - 2.3.1*: Wavelets
 - 2.3.2*: Filter banks
 - 2.3.3*: Scale-space
 - 2.3.4*: Multigrid methods
 - 2.3.5*: Hierarchical Processing
- 2.4: TEC-RST
 - 2.4.1*: Contrast enhancement, deblurring, and denoising
 - 2.4.2*: Multiframe image restoration
 - 2.4.3*: Inpainting and image synthesis
- 2.5: TEC-ISR
 - 2.5.1*: Interpolation and superresolution
 - 2.5.2*: Mosaicing, registration, and alignment
 - 2.5.3*: Multi-image fusion
- 2.6: TEC-FOR
 - 2.6.1*: Inverse methods
 - 2.6.2*: Tomography and reconstruction
 - 2.6.3*: Compressive sensing
- 2.7: TEC-BIP
 - 2.7.1*: Segmentation and quantitative analysis
 - 2.7.2*: Biomedical image registration and fusion
 - 2.7.3*: Anatomical, functional, and molecular data analysis
 - 2.7.4*: Computer assisted screening and diagnosis
 - 2.7.5*: Visualization of biomedical data
- 3: Image & Video Communications
 - 3.1: COM-LOC
 - 3.1.1*: Transform coding
 - 3.1.1*: Perceptual coding
 - 3.1.2*: Motion compensated coding
 - 3.1.3*: Wavelet-based coding
 - 3.1.4*: Scalable coding
 - 3.1.5*: Transcoding
 - 3.1.6*: Video compression standards

- 3.1.7*: Multiple description coding
- 3.1.8*: Distributed coding
- 3.1.9*: Multispectral and biomedical image compression

3.2: COM-LLC

- 3.2.1*: Lossless and near lossless coding
- 3.2.2*: Predictive coding
- 3.2.3*: Revisable transforms

3.3: COM-ERC

- 3.3.1*: Joint source/channel coding
- 3.3.2*: Error resilience and error concealment
- 3.3.3*: Video streaming
- 3.3.4*: Content adaptation

3.4: COM-NET

- 3.4.1*: Sensor networks
- 3.4.2*: Distributed imaging
- 3.4.3*: Networking
- 3.4.4*: Image and Video communication protocols

3.5: COM-WSE

- 3.5.1*: Image processing for watermarking
- 3.5.2*: Printing and imaging security
- 3.5.3*: Image and video encryption
- 3.5.4*: Forensic imaging

3.6: COM-MMC

- 3.6.1*: Multimedia with image and video content
- 3.6.2*: Multimedia event synchronization
- 3.6.3*: Multimedia coding and transmission

4: Electronic Imaging

4.1: ELI-SDP

- 4.1.1*: Scanners and cameras
- 4.1.2*: Imaging sensors
- 4.1.3*: High dynamic range imaging

4.2: ELI-COL

- 4.2.1*: Color Imaging
- 4.2.2*: Multispectral and hyperspectral imaging

4.3: ELI-PRT

- 4.3.1*: Quantization and Halftoning
- 4.3.2*: Display and printing systems

- 4.3.3*: Variable data printing
- 4.3.4*: Print quality assessment
- 4.3.5*: Subpixel rendering

4.4: ELI-DOC

- 4.4.1*: Page segmentation
- 4.4.2*: Text/graphics/picture classification
- 4.4.3*: Background suppression
- 4.4.4*: Neutral color detection
- 4.4.5*: Graphics vectorization
- 4.4.6*: Optical character recognition
- 4.4.7*: Document coding
- 4.4.8*: Binary image coding
- 4.4.9*: Mixed raster content coding
- 4.4.10*: Document analysis and synthesis

4.5: ELI-STE

- 4.5.1*: Stereo image processing
- 4.5.2*: Multiview image processing
- 4.5.3*: 3D modeling & synthesis
- 4.5.4*: Camera calibration
- 4.5.5*: Stereoscopic and Multiview and 3-D coding
- 4.5.6*: Stereoscopic and Multiview displays and systems

4.6: ELI-HDW

- 4.6.1*: Special purpose hardware systems
- 4.6.2*: Hardware and software co-design
- 4.6.3*: Parallel and distributed systems

5: Computational Imaging

5.1: COI-AUI

- 5.1.1*: Ultrasound imaging
- 5.1.2*: Acoustic imaging

5.2: COI-MCI

- 5.2.1*: Optical, confocal, multiphoton, and nonlinear microscopy
- 5.2.2*: Electron microscopy
- 5.2.3*: Atomic force microscopy

5.3: COI-TOM

- 5.3.1*: Computed transmission tomography (CT)
- 5.3.2*: Single photon emission computed tomography (SPECT)
- 5.3.3*: Positron emission tomography (PET)

5.3.4*: Optical coherence tomography (OCT)

5.3.5*: Diffuse optical tomography (DOT)

5.4: COI-MRI

5.4.1*: MRI reconstruction

5.4.2*: MRI acquisition systems

5.5: COI-RRG

5.5.1*: Acoustic imaging

5.5.2*: Radar and terahertz imaging

5.5.3*: Synthetic aperture radar (SAR) imaging

5.5.4*: Inverse SAR imaging

5.5.5*: Astronomical imaging

5.5.6*: Infrared, multispectral, and hyperspectral imaging

5.5.7*: Geophysical and seismic imaging

5.6: COI-HDW

5.6.1*: Special purpose hardware systems

5.6.2*: Hardware and software co-design

5.6.3*: Parallel and distributed systems

6: Image & Video Analysis, Synthesis, and Retrieval

6.1: ARS-RBS

6.1.1*: Segmentation

6.1.2*: Classification

6.1.3*: Edge and boundary detection

6.1.4*: Active-contour and level-set methods

6.1.5*: Morphological analysis methods

6.1.6*: Shape models and metrics

6.1.7*: Stochastic shape and region models

6.2: ARS-IVA

6.2.1*: Detection, tracking, and recognition of objects

6.2.2*: Motion estimation and optical flow

6.2.3*: Shape-from-X

6.2.4*: Pose estimation

6.2.5*: Change detection

6.2.6*: Video surveillance

6.3: ARS-IIU

6.3.1*: Object recognition and classification

6.3.2*: Foreground/background segregation

6.3.3*: Scene analysis

6.4: ARS-BIM

- 6.4.1*: Fingerprint analysis
- 6.4.2*: Face and gesture recognition and tracking
- 6.4.3*: Body models and gait analysis
- 6.4.4*: Iris and retinal analysis

6.5: ARS-SRE

- 6.5.1*: Indexing and retrieval
- 6.5.2*: Browsing, navigation, and relevance feedback
- 6.5.3*: Metadata extraction and semantic analysis
- 6.5.4*: Video shot, scene, and event detection
- 6.5.5*: Content summarization
- 6.5.6*: Multimodal retrieval involving image and video

6.6: ARS-SRV

- 6.6.1*: Image rendering
- 6.6.2*: Texture synthesis
- 6.6.3*: Visualization and graphic rendering
- 6.6.4*: Image and video synthesis
- 6.6.5*: Image-based representation and rendering