Contents

ix Authorsxiii Conference Committee

xv Introduction

| SECTION 1 | FEATURE EXTRACTION AND PATTERN MATCHING |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------|
| 10225 02 | Feature extraction using gray-level co-occurrence matrix of wavelet coefficients and texture matching for batik motif recognition [10225-79] |
| 10225 03 | Fast template matching based on grey prediction for real-time object tracking [10225-22] |
| 10225 04 | Object tracking via kernel-based forward-backward keypoint matching [10225-43] |
| 10225 05 | Navigable points estimation for mobile robots using binary image skeletonization [10225-98] |
| 10225 06 | Using the erroneous data clustering to improve the feature extraction weights of original image algorithms [10225-6] |
| 10225 07 | An improved RANSAC algorithm for line matching on multispectral images [10225-46] |
| 10225 08 | Automatic detection and extraction of ultra-fine bright structure observed with new vacuum solar telescope [10225-96] |
| SECTION 2 | TARGET DETECTION AND RECOGNITION |
| 10225 09 | Unconstrained face detection and recognition based on RGB-D camera for the visually impaired [10225-18] |
| 10225 0A | Gait recognition based on integral outline [10225-21] |
| 10225 OB | Deep learning and non-negative matrix factorization in recognition of mammograms [10225-32] |
| 10225 0C | TDSIFT: a new descriptor for 2D and 3D ear recognition [10225-55] |
| 10225 0D | Pre-impact fall detection system using dynamic threshold and 3D bounding box [10225-66] |
| | |
| 10225 0E | Overhead spine arch analysis of dairy cows from three-dimensional video [10225-5] |

| 10225 0G | Face recognition based on the band fusion of generalized phase spectrum of 2D-FrFT [10225-41] |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| 10225 0H | Arabic sign language recognition based on HOG descriptor [10225-45] |
| 10225 01 | Kinect-based sign language recognition of static and dynamic hand movements [10225-56] |
| 10225 OJ | Emotion detection model of Filipino music [10225-58] |
| 10225 OK | Tele-operated search robot for human detection using histogram of oriented objects [10225-78] |
| 10225 OL | The identification of molecular surfaces' feature regions based on spherical mapping [10225-85] |
| 10225 OM | Support vector machine and mel frequency Cepstral coefficient based algorithm for hand gestures and bidirectional speech to text device [10225-91] |
| 10225 ON | Circle Hough transform implementation for dots recognition in braille cells [10225-93] |
| 10225 00 | Error-detective one-dimensional mapping [10225-103] |
| 10225 OP | A scale-invariant keypoint detector in log-polar space [10225-104] |
| 10225 0Q | An automated detection for axonal boutons in vivo two-photon imaging of mouse [10225-107] |
| SECTION 3 | IMAGE TRANSFORMATION AND ANALYSIS |
| 10225 OR | Two-stage underwater image restoration based on a physical model [10225-50] |
| 10225 OS | An evaluation on CT image acquisition method for medical VR applications [10225-60] |
| 10225 OT | Mosaicing of fisheye images through conformal projection and sphere matching [10225-42] |
| 10225 OU | A liver cirrhosis classification on B-mode ultrasound images by the use of higher order local autocorrelation features [10225-73] |
| 10225 OW | Extended gray level co-occurrence matrix computation for 3D image volume [10225-87] |
| 10225 0X | Classification of photographed document images based on deep-learning features [10225-90] |
| | |
| 10225 OY | An improved the volume trace transform by a sub-micro pattern for solving the Gaussian noise image problem [10225-117] |

| 10225 10 | A multi-label image annotation scheme based on improved SVM multiple kernel learning [10225-8] |
|-----------|-----------------------------------------------------------------------------------------------------------------------|
| 10225 11 | Multi-frame blind image deconvolution through split frequency - phase recovery [10225-30] |
| 10225 12 | High resolution OCT image generation using super resolution via sparse representation [10225-33] |
| SECTION 4 | IMAGE SEGMENTATION |
| 10225 13 | Various uses of statistical tools for texture analysis [10225-39] |
| 10225 14 | Bounded Rayleigh mixture model for ultrasound image segmentation [10225-84] |
| 10225 15 | Multi-scales region segmentation for ROI separation in digital mammograms [10225-100] |
| 10225 16 | Omega-3 chicken egg detection system using a mobile-based image processing segmentation method [10225-3] |
| 10225 17 | Surgical wound segmentation based on adaptive threshold edge detection and genetic algorithm [10225-9] |
| 10225 18 | SOM-based nonlinear least squares twin SVM via active contours for noisy image segmentation [10225-24] |
| 10225 19 | Novel approach for automatic segmentation of LV endocardium via SPCNN [10225-31] |
| 10225 1A | Handwritten text line segmentation by spectral clustering [10225-89] |
| SECTION 5 | IMAGE RECONSTRUCTION AND IMAGE SECURITY |
| 10225 1B | Image steganography using layered pixel-value differencing [10225-35] |
| 10225 1C | Fingerprint spoof detection using wavelet based local binary pattern [10225-69] |
| 10225 1D | Image watermarking against lens flare effects [10225-77] |
| 10225 1E | Indoor space 3D visual reconstruction using mobile cart with laser scanner and cameras [10225-51] |
| 10225 1F | Robust optical flow using adaptive Lorentzian filter for image reconstruction under noisy condition [10225-54] |
| 10225 1G | The ultra-rate spatial enhancement using Huber regularization MSRR and Huber high- spectrum expectation [10225-65] |

| SECTION 6 | VISUAL AND VIDEO PROCESSING TECHNOLOGY |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10225 1H | Estimating 3D gaze in physical environment: a geometric approach on consumer-level remote eye tracker [10225-12] |
| 10225 11 | An add-on video compression codec based on content-adaptive sparse super-resolution reconstructions [10225-15] |
| 10225 1J | Sample-adaptive-prediction for HEVC SCC intra coding with ridge estimation from spatially neighboring samples [10225-16] |
| 10225 1K | A neighbor pixel communication filtering structure for Dynamic Vision Sensors [10225-26] |
| 10225 1L | Detecting dominant motion patterns in crowds of pedestrians [10225-67] |
| 10225 1M | Visual identification and similarity measures used for on-line motion planning of autonomous robots in unknown environments [10225-94] |
| 10225 1N | Color image zero-watermarking based on SVD and visual cryptography in DWT domain [10225-99] |
| 10225 10 | Multiple candidates and multiple constraints based accurate depth estimation for multiview stereo [10225-102] |
| 10225 1P | An improved TLD with Harris corner and color moment [10225-110] |
| 10225 1Q | The software for automatic creation of the formal grammars used by speech recognition, computer vision, editable text conversion systems, and some new functions [10225-112] |
| 10225 1R | Measuring tail beat frequency and coast phase in school of fish for collective motion analysis [10225-44] |
| 10225 1\$ | Head pose free 3D gaze estimation using RGB-D camera [10225-4] |
| 10225 1T | IECDS: an improved electrical charge distribution on the shape [10225-10] |
| SECTION 7 | IMAGE PROCESSING AND APPLICATION |
| 10225 1U | Landscape analysis through remote sensing and GIS techniques: a case study of Astrakhan, Russia [10225-27] |
| 10225 1V | Deep learning in assessment of drill condition on the basis of images of drilled holes [10225-29] |
| 10225 1W | Cloud-based application for rice moisture content measurement using image processing technique and perceptron neural network [10225-80] |
| 10225 1X | Low cost 3D scanning process using digital image processing [10225-92] |

| 10225 1Y | Behavioral similarity measurement based on image processing for robots that use imitative learning [10225-97] |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------|
| 10225 1Z | Selection of achromatic and non-neutral colors to fill lacunae in frescoes guided by a variational model of perceived contrast [10225-116] |
| 10225 20 | Scene classification for weak devices using spatial oriented gradient indexing [10225-19] |
| 10225 21 | Visualization and processing of images in nano-resolution [10225-70] |
| 10225 22 | Temperature and oxygen visual estimator for carbonization process control [10225-95] |
| 10225 23 | The simulation of the half-dry stroke based on the force feedback technology [10225-34] |
| 10225 24 | Surface height map estimation from a single image using convolutional neural networks [10225-48] |
| 10225 25 | Discriminant analysis of multiple cortical changes in mild cognitive impairment [10225-25] |
| SECTION 8 | MEDICAL IMAGE PROCESSING |
| 10225 26 | Automatic wound infection interpretation for postoperative wound image [10225-13] |
| 10225 27 | Automatic right ventricle segmentation in cardiac MRI via anisotropic diffusion and SPCNN [10225-17] |
| 10225 28 | CUDA-based acceleration of collateral filtering in brain MR images [10225-74] |
| 10225 29 | A new boundary correction method for lung parenchyma [10225-2] |
| 10225 2A | Evaluation of feature selection algorithms for classification in temporal lobe epilepsy based on MR images [10225-36] |
| 10225 2B | Detection of tuberculosis using hybrid features from chest radiographs [10225-62] |
| 10225 2C | Regions of micro-calcifications clusters detection based on new features from imbalance data in mammograms [10225-72] |
| 10225 2D | Recursive Gauss-Seidel median filter for CT lung image denoising [10225-86] |
| 10225 2E | Determining the number of clusters for nuclei segmentation in breast cancer image [10225-88] |
| 10225 2F | Link prediction boosted psychiatry disorder classification for functional connectivity network [10225-115] |

SECTION 9 COMPUTER ENGINEERING AND PHOTOGRAPHY 10225 2G 3D kinematic measurement of human movement using low cost fish-eye cameras [10225-49] 10225 2H Foreground extraction for moving RGBD cameras [10225-14] 10225 2I Analyzing machine noise for real time maintenance [10225-11] 10225 2J An interpretation model of GPR point data in tunnel geological prediction [10225-23] 10225 2K Optimization of deep learning algorithms for object classification [10225-38]