

Contents

xv	<i>Authors</i>
xxi	<i>Conference Committee</i>
xxiii	<i>Introduction</i>

Part One

TARGET DETECTION AND TRACKING

10615 02	Efficient airport detection using region-based fully convolutional neural networks [10615-108]
10615 03	Oriented regions grouping based candidate proposal for infrared pedestrian detection [10615-148]
10615 04	Long-term scale adaptive tracking with kernel correlation filters [10615-137]
10615 05	Vehicle tracking using fuzzy-based vehicle detection window with adaptive parameters [10615-53]
10615 06	A speeded-up saliency region-based contrast detection method for small targets [10615-17]
10615 07	Fabric defect detection based on visual saliency using deep feature and low-rank recovery [10615-198]
10615 08	Lane detection based on color probability model and fuzzy clustering [10615-103]
10615 09	Fast object detection algorithm based on HOG and CNN [10615-115]
10615 0A	Fabric defect detection based on faster R-CNN [10615-196]
10615 0B	Border-oriented post-processing refinement on detected vehicle bounding box for ADAS [10615-243]
10615 0C	Multi-target detection and positioning in crowds using multiple camera surveillance [10615-113]
10615 0D	Person detection, tracking and following using stereo camera [10615-51]
10615 0E	Kernelized correlation tracking with long-term motion cues [10615-47]
10615 0F	Salient object detection method based on multiple semantic features [10615-121]

- 10615 0G **Detecting text in natural scenes with multi-level MSER and SWT** [10615-147]
- 10615 0H **Object tracking algorithm based on the color histogram probability distribution** [10615-167]
- 10615 0I **Infrared small target detection based on multiscale center-surround contrast measure** [10615-218]
- 10615 0J **Small-size pedestrian detection in large scene based on fast R-CNN** [10615-251]
- 10615 0K **Defect detection and classification of galvanized stamping parts based on fully convolution neural network** [10615-188]

FACE RECOGNITION

- 10615 0L **Deep classification hashing for person re-identification** [10615-4]
- 10615 0M **Facial expression recognition under partial occlusion based on fusion of global and local features** [10615-150]
- 10615 0N **Face recognition via sparse representation of SIFT feature on hexagonal-sampling image** [10615-238]
- 10615 0O **Sub-pattern based multi-manifold discriminant analysis for face recognition** [10615-20]
- 10615 0P **In-the-wild facial expression recognition in extreme poses** [10615-48]
- 10615 0Q **Constrained dictionary learning and probabilistic hypergraph ranking for person re-identification** [10615-161]
- 10615 0R **Microcontroller based driver alertness detection systems to detect drowsiness** [10615-174]
- 10615 0S **Joint and collaborative representation with local Volterra kernels convolution feature for face recognition** [10615-138]
- 10615 0T **Dynamic facial expression recognition based on geometric and texture features** [10615-99]
- 10615 0U **The depth estimation of 3D face from single 2D picture based on manifold learning constraints** [10615-71]
- 10615 0V **Face recognition via Gabor and convolutional neural network** [10615-216]
- 10615 0W **Multi-task learning with group information for human action recognition** [10615-163]
- 10615 0X **Multi-pose facial correction based on Gaussian process with combined kernel function** [10615-136]

PATTERN RECOGNITION

- 10615 0Y **Low-contrast underwater living fish recognition using PCANet** [10615-63]

- 10615 0Z **Partial fingerprint identification algorithm based on the modified generalized Hough transform on mobile device** [10615-36]
- 10615 10 **Vehicle license plate recognition in dense fog based on improved atmospheric scattering model** [10615-7]
- 10615 11 **Pigments identification of paintings using subspace distance unmixing algorithm** [10615-90]
- 10615 12 **A new pattern associative memory model for image recognition based on Hebb rules and dot product** [10615-13]
- 10615 13 **Vehicle logo recognition using multi-level fusion model** [10615-183]
- 10615 14 **Scene recognition based on integrating active learning with dictionary learning** [10615-16]
- 10615 15 **Multi-channel feature dictionaries for RGB-D object recognition** [10615-160]
- 10615 16 **Identification of serial number on bank card using recurrent neural network** [10615-133]
- 10615 17 **Object recognition in images via a factor graph model** [10615-146]
- 10615 18 **An effective method for cirrhosis recognition based on multi-feature fusion** [10615-227]

FEATURE SELECTION AND EXTRACTION

- 10615 19 **Mutual information based feature selection for medical image retrieval** [10615-55]
- 10615 1A **A novel local descriptor based on accumulated ranking and averaged bin across multiple scales** [10615-38]
- 10615 1B **Image segmentation-based robust feature extraction for color image watermarking** [10615-111]
- 10615 1C **Multi-dimension feature fusion for action recognition** [10615-15]
- 10615 1D **Generating description with multi-feature fusion and saliency maps of image** [10615-237]
- 10615 1E **Feature-fused SSD: fast detection for small objects** [10615-236]
- 10615 1F **A robust probabilistic collaborative representation based classification for multimodal biometrics** [10615-69]
- 10615 1G **LSAH: a fast and efficient local surface feature for point cloud registration** [10615-197]
- 10615 1H **Text extraction from images in the wild using the Viola-Jones algorithm** [10615-180]
- 10615 1I **Offline signature verification using convolution Siamese network** [10615-135]
- 10615 1J **Steganalysis based on reducing the differences of image statistical characteristics** [10615-214]

IMAGE TRANSFORMATION AND ALGORITHM

- 10615 1K **Adaptive bit plane quadtree-based block truncation coding for image compression** [10615-101]
- 10615 1L **Document image binarization using "multi-scale" predefined filters** [10615-190]
- 10615 1M **A difference tracking algorithm based on discrete sine transform** [10615-75]
- 10615 1N **Accurately estimating PSF with straight lines detected by Hough transform** [10615-66]
- 10615 1O **An improved TV caption image binarization method** [10615-244]
- 10615 1P **The parallel algorithm for the 2D discrete wavelet transform** [10615-87]
- 10615 1Q **Robust non-rigid registration algorithm based on local affine registration** [10615-52]
- 10615 1R **Contour sensitive saliency and depth application in image retargeting** [10615-181]
- 10615 1S **An adaptive clustering algorithm for image matching based on corner feature** [10615-204]
- 10615 1T **New development of the image matching algorithm** [10615-246]

IMAGE SEGMENTATION

- 10615 1U **Augmented lazy snapping: how does pre-segmentation help lazy snapping framework?** [10615-122]
- 10615 1V **A robust and fast active contour model for image segmentation with intensity inhomogeneity** [10615-100]
- 10615 1W **Detecting wood surface defects with fusion algorithm of visual saliency and local threshold segmentation** [10615-105]
- 10615 1X **Label fusion based brain MR image segmentation via a latent selective model** [10615-76]
- 10615 1Y **Weakly supervised image semantic segmentation based on clustering superpixels** [10615-9]
- 10615 1Z **A robust fuzzy local Information c-means clustering algorithm with noise detection** [10615-6]
- 10615 20 **Image edge tracking via ant colony optimization** [10615-157]
- 10615 21 **A lane line segmentation algorithm based on adaptive threshold and connected domain theory** [10615-8]
- 10615 22 **Epidermis area detection for immunofluorescence microscopy** [10615-37]
- 10615 23 **A fusion network for semantic segmentation using RGB-D data** [10615-201]

- 10615 24 **A fast and robust image segmentation method based on superpixels** [10615-217]
- 10615 25 **An image segmentation method based on fuzzy C-means clustering and Cuckoo search algorithm** [10615-93]
- 10615 26 **Adaptive block online learning target tracking based on super pixel segmentation** [10615-98]
- 10615 27 **Multi scales based sparse matrix spectral clustering image segmentation** [10615-84]
- 10615 28 **A novel sub-shot segmentation method for user-generated video** [10615-18]
- 10615 29 **An unsupervised video foreground co-localization and segmentation process by incorporating motion cues and frame features** [10615-151]
- 10615 2A **A new region-edge based level set model with applications to image segmentation** [10615-205]
- 10615 2B **A Gaussian-based rank approximation for subspace clustering** [10615-28]
- 10615 2C **Blood vessels segmentation of hatching eggs based on fully convolutional networks** [10615-145]
- 10615 2D **A kind of color image segmentation algorithm based on super-pixel and PCNN** [10615-128]

IMAGE DENOISING AND RESTORATION

- 10615 2E **A multichannel total variational Retinex model based on nonlocal differential operators** [10615-169]
- 10615 2F **Image deblurring based on nonlocal regularization with a non-convex sparsity constraint** [10615-19]
- 10615 2G **Background suppression of infrared small target image based on inter-frame registration** [10615-26]
- 10615 2H **Logarithmic profile mapping multi-scale Retinex for restoration of low illumination images** [10615-57]
- 10615 2I **Fast image dehazing based on non-local saturation** [10615-248]
- 10615 2J **Removing flicker based on sparse color correspondences in old film restoration** [10615-223]
- 10615 2K **An improved artifact removal in exposure fusion with local linear constraints** [10615-166]
- 10615 2L **Spatially adapted second-order total generalized variational image deblurring model under impulse noise** [10615-143]

- 10615 2M **Total generalized variation-regularized variational model for single image dehazing**
[10615-102]
- 10615 2N **Grayscale inhomogeneity correction method for multiple mosaicked electron microscope images** [10615-178]

IMAGE ENHANCEMENT

- 10615 2O **Enhancement method for rendered images of home decoration based on SLIC superpixels**
[10615-132]
- 10615 2P **An optimization model for infrared image enhancement method based on p-q norm constrained by saliency value** [10615-211]
- 10615 2Q **Half-unit weighted bilinear algorithm for image contrast enhancement in capsule endoscopy** [10615-140]
- 10615 2R **Single-scale center-surround Retinex based restoration of low-illumination images with edge enhancement** [10615-45]
- 10615 2S **A review on brightness preserving contrast enhancement methods for digital image**
[10615-46]

Part Two

- 10615 2T **PMSR model for low illumination image enhancement** [10615-129]
- 10615 2U **Naturalness preservation image contrast enhancement via histogram modification**
[10615-109]

IMAGE CLASSIFICATION AND FUSION

- 10615 2V **SAR image classification based on CNN in real and simulation datasets** [10615-156]
- 10615 2W **Traffic sign classification with dataset augmentation and convolutional neural network**
[10615-222]
- 10615 2X **Hyperspectral image classification based on local binary patterns and PCANet** [10615-74]
- 10615 2Y **Adaptive multi-view clustering based on nonnegative matrix factorization and pairwise co-regularization** [10615-235]
- 10615 2Z **Deep multi-scale convolutional neural network for hyperspectral image classification**
[10615-239]
- 10615 30 **Different approaches for the texture classification of a remote sensing image bank**
[10615-24]

- 10615 31 **Comparison and evaluation of fusion methods used for GF-2 satellite image in coastal mangrove area** [10615-200]
- 10615 32 **Multimodal medical image fusion by combining gradient minimization smoothing filter and non-subsampled directional filter bank** [10615-192]
- 10615 33 **Multi-focus image fusion based on area-based standard deviation in dual tree contourlet transform domain** [10615-247]
- 10615 34 **Image fusion based on Bandelet and sparse representation** [10615-80]
- 10615 35 **Adaptive structured dictionary learning for image fusion based on group-sparse-representation** [10615-215]
- 10615 36 **An efficient method for the fusion of light field refocused images** [10615-61]
- 10615 37 **An acceleration system for Laplacian image fusion based on SoC** [10615-162]

THREE-DIMENSIONAL RECONSTRUCTION

- 10615 38 **Estimating 3D topographic map of optic nerve head from a single fundus image** [10615-27]
- 10615 39 **Photometric stereo via random sampling and tensor robust principal component analysis** [10615-1]
- 10615 3A **An interactive display system for large-scale 3D models** [10615-49]
- 10615 3B **Surface reconstruction and deformation monitoring of stratospheric airship based on laser scanning technology** [10615-123]
- 10615 3C **3D reconstruction based on light field images** [10615-202]
- 10615 3D **Fast total variation-based image restoration using blockwise accelerated proximal gradient approach** [10615-240]
- 10615 3E **A curvature-based weighted fuzzy c-means algorithm for point clouds de-noising** [10615-139]
- 10615 3F **Efficient structure from motion on large scenes using UAV with position and pose information** [10615-233]

IMAGING SYSTEM AND MODELING

- 10615 3G **An embedded multi-core parallel model for real-time stereo imaging** [10615-220]
- 10615 3H **Information retrieval based on single-pixel optical imaging with quick-response code** [10615-40]
- 10615 3I **Fisheye camera around view monitoring system** [10615-96]

- 10615 3J **Rapid generation of full view image based on multi-camera** [10615-152]
- 10615 3K **Automatic digital surface model (DSM) generation from aerial imagery data** [10615-144]
- 10615 3L **Inverse synthetic aperture radar imaging based on varying-parameter method** [10615-34]
- 10615 3M **Study on super-resolution three-dimensional range-gated imaging technology** [10615-245]
- 10615 3N **Semantic attributes based texture generation** [10615-72]
- 10615 3O **The adaptive parallel UKF inversion method for the shape of space objects based on the ground-based photometric data** [10615-131]
- 10615 3P **A handheld optical device for skin profile measurement** [10615-29]
- 10615 3Q **Three dimensional shape measurement of wear particle by iterative volume intersection** [10615-212]

MACHINE VISION AND VISUALIZATION

- 10615 3R **Visual texture perception via graph-based semi-supervised learning** [10615-60]
- 10615 3S **Multiple feature fusion via covariance matrix for visual tracking** [10615-193]
- 10615 3T **The application of machine vision in fire protection system** [10615-171]
- 10615 3U **DVS image noise removal using K-SVD method** [10615-241]
- 10615 3V **Visual question answering using hierarchical dynamic memory networks** [10615-14]
- 10615 3W **Cross-domain latent space projection for person re-identification** [10615-159]
- 10615 3X **Robust visual tracking via multiple discriminative models with object proposals** [10615-92]
- 10615 3Y **Cross-media color reproduction using the frequency-based spatial gamut mapping algorithm based on human color vision** [10615-95]
- 10615 3Z **Using infrared HOG-based pedestrian detection for outdoor autonomous searching UAV with embedded system** [10615-210]
- 10615 40 **Proper use of colour schemes for image data visualization** [10615-118]
- 10615 41 **Saliency detection by conditional generative adversarial network** [10615-253]
- 10615 42 **Constrained motion estimation-based error resilient coding for HEVC** [10615-189]
- 10615 43 **A novel parallel pipeline structure of VP9 decoder** [10615-221]
- 10615 44 **An efficient CU partition algorithm for HEVC based on improved Sobel operator** [10615-91]

COMPUTER GRAPHICS AND REMOTE SENSING TECHNOLOGY

- 10615 45 **Loose fusion based on SLAM and IMU for indoor environment** [10615-97]
- 10615 46 **Quadratic polynomial interpolation on triangular domain** [10615-110]
- 10615 47 **A fast and accurate dihedral interpolation loop subdivision scheme** [10615-120]
- 10615 48 **Change detection for synthetic aperture radar images based on pattern and intensity distinctiveness analysis** [10615-249]
- 10615 49 **Filtering method of star control points for geometric correction of remote sensing image based on RANSAC algorithm** [10615-209]
- 10615 4A **Pseudo-color coding method for high-dynamic single-polarization SAR images** [10615-59]
- 10615 4B **A change detection method for remote sensing image based on LBP and SURF feature** [10615-39]
- 10615 4C **Land surface temperature downscaling using random forest regression: primary result and sensitivity analysis** [10615-22]
- 10615 4D **An improvement of vehicle detection under shadow regions in satellite imagery** [10615-164]

IMAGE PROCESSING TECHNIQUES AND METHODS

- 10615 4E **Study on the generation technology of Li brocade pattern mutant genes based on the AI and Java technology** [10615-179]
- 10615 4F **A novel method of the image processing on irregular triangular meshes** [10615-114]
- 10615 4G **Patch-based frame interpolation for old films via the guidance of motion paths** [10615-116]
- 10615 4H **Robust and unobtrusive algorithm based on position independence for step detection** [10615-126]
- 10615 4I **Slot angle detecting method for fiber fixed chip** [10615-208]
- 10615 4J **Automatic extraction of via in the CT image of PCB** [10615-3]
- 10615 4K **The frequency hopping pattern design for random hopping frequency signal based on stationary phase principle** [10615-125]
- 10615 4L **Color image guided depth image super resolution using fusion filter** [10615-25]
- 10615 4M **A novel scene management technology for complex virtual battlefield environment** [10615-30]

- 10615 4N **Research on tactical information display technology for interactive virtual cockpit** [10615-82]
- 10615 4O **Research on sparse feature matching of improved RANSAC algorithm** [10615-67]
- 10615 4P **Super-pixel extraction based on multi-channel pulse coupled neural network** [10615-127]
- 10615 4Q **A deep learning method for early screening of lung cancer** [10615-168]
- 10615 4R **Super-resolution using a light inception layer in convolutional neural network** [10615-35]
- 10615 4S **Adjacent bin stability evaluating for feature description** [10615-41]

IMAGE QUALITY ASSESSMENT AND INFORMATION SECURITY

- 10615 4T **FBC: a flat binary code scheme for fast Manhattan hash retrieval** [10615-124]
- 10615 4U **Robust digital image watermarking using distortion-compensated dither modulation** [10615-112]
- 10615 4V **An efficient cloud detection method for high resolution remote sensing panchromatic imagery** [10615-81]
- 10615 4W **Natural texture retrieval based on perceptual similarity measurement** [10615-229]
- 10615 4X **The fast iris image clarity evaluation based on Tenengrad and ROI selection** [10615-31]
- 10615 4Y **Image sharpness assessment based on wavelet energy of edge area** [10615-117]
- 10615 4Z **Metal surface corrosion grade estimation from single image** [10615-77]
- 10615 50 **Synthesized view comparison method for no-reference 3D image quality assessment** [10615-88]
- 10615 51 **Research on quality metrics of wireless adaptive video streaming** [10615-21]

SIGNAL ANALYSIS AND PROCESSING

- 10615 52 **Shadowed non-local image guided filter** [10615-50]
- 10615 53 **Towards accurate localization: long- and short-term correlation filters for tracking** [10615-106]
- 10615 54 **Direct position determination for digital modulation signals based on improved particle swarm optimization algorithm** [10615-54]
- 10615 55 **A MIMO radar quadrature and multi-channel amplitude-phase error combined correction method based on cross-correlation** [10615-32]

- 10615 56 **A KST framework for correlation network construction from time series signals** [10615-186]
- 10615 57 **An approach of point cloud denoising based on improved bilateral filtering** [10615-191]
- 10615 58 **Study on time-frequency analysis method of very fast transient overvoltage** [10615-219]
- 10615 59 **Hilbert-Huang transform analysis of long-term solar magnetic activity** [10615-226]
- 10615 5A **Robust adaptive multichannel SAR processing based on covariance matrix reconstruction** [10615-199]
- 10615 5B **LSTM for diagnosis of neurodegenerative diseases using gait data** [10615-242]
- 10615 5C **Feature extraction inspired by V1 in visual cortex** [10615-107]
- 10615 5D **An improved method based on wavelet coefficient correlation to filter noise in Doppler ultrasound blood flow signals** [10615-44]

COMPUTER INFORMATION ENGINEERING AND WEATHER FORECASTING

- 10615 5E **Strong convective storm nowcasting using a hybrid approach of convolutional neural network and hidden Markov model** [10615-62]
- 10615 5F **A deep belief network approach using VDRAS data for nowcasting** [10615-158]
- 10615 5G **Research on Chinese characters display of airborne MFD based on GL studio** [10615-142]
- 10615 5H **Visual analysis of tropical cyclone trajectory prediction** [10615-83]
- 10615 5I **A similarity based agglomerative clustering algorithm in networks** [10615-89]
- 10615 5J **A rule-based smart automated fertilization and irrigation systems** [10615-177]
- 10615 5K **Process mining techniques: an application to time management** [10615-187]
- 10615 5L **A study of factors affecting the adoption of server virtualization technology** [10615-141]
- 10615 5M **An improved multi-domain convolution tracking algorithm** [10615-213]