

2016 Asia-Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA 2016)

**Jeju, South Korea
13-16 December 2016**

Pages 1-668



**IEEE Catalog Number: CFP1614U-POD
ISBN: 978-1-5090-2401-8**

Copyright © 2016, Asia Pacific Signal and Information Processing Association (APSIPA) All Rights Reserved

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP1614U-POD
ISBN (Print-On-Demand):	978-1-5090-2401-8
ISBN (Online):	978-988-14768-2-1

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

VOLUME 1

QUALITY PRESERVING DEPTH ESTIMATION IN SEQUENTIAL STEREO IMAGES	1
<i>Ji-Hun Mun, Yo-Sung Ho</i>	
DEPTH MAP REFINEMENT USING SUPERPIXEL LABEL INFORMATION	5
<i>Su-Min Hong, Yo-Sung Ho</i>	
AN ENHANCED MULTI-VIEW HUMAN ACTION RECOGNITION SYSTEM FOR VIRTUAL TRAINING SIMULATOR	9
<i>Beom Kwon, Junghwan Kim, Sanghoon Lee</i>	
ROBUST BLIND DECONVOLUTION FOR PMMW IMAGES WITH SPARSITY PRESENTATION.....	13
<i>Tingting Liu, Zengzhao Chen, Hai Liu, Sanya Liu, Zhaoli Zhang, Taihe Cao</i>	
EXPOSING HETEROGENEOUS CHAIN OF VIDEO RECOMPRESSION.....	18
<i>Jingxian Liu, Xiangui Kang</i>	
IMPROVEMENT ALGORITHM OF VIDEO CODING EFFICIENCY USING PRE-FILTERING AND POST-FILTERING BASED ON GLOBAL MOTION COMPENSATION	24
<i>Ho Hyeong Ryu, Kwang Yeon Choi, Byung Cheol Song</i>	
SALIENT OBJECT SEGMENTATION USING A SWITCH SCHEME	29
<i>Ran Shi, King Ng, Songnan Li</i>	
ORIENTED TOOTH LOCALIZATION FOR PERIAPICAL DENTAL X-RAY IMAGES VIA CONVOLUTIONAL NEURAL NETWORK	33
<i>Hyunjun Eun, Changick Kim</i>	
MULTI-FEATURE BASED SCORE FUSION METHOD FOR FINGERPRINT RECOGNITION ACCURACY BOOSTING	40
<i>Qiongxiu Li, Changlong Jin, Weonjin Kim, Jungmin Kim, Shengzhe Li, Hakil Kim</i>	
CLASSIFICATION OF FOOTSTEP ATTRIBUTES USING A VIBRATION SENSOR.....	44
<i>Futoshi Asano, Miyuki Fukushima</i>	
INTRA BLOCK COPY HASH REDUCTION FOR HEVC SCREEN CONTENT CODING	49
<i>Che-Wei Kuo, Hsueh-Ming Hang, Chun-Liang Chien</i>	
STEERING BEHAVIOR MODEL OF DRIVERS ON DRIVING SIMULATOR THROUGH VISUAL INFORMATION.....	58
<i>Tomohito Suzuki, Takatomi Kubo, Toshihiro Hiraoka, Yuto Nakagawa</i>	
GAIT RECOGNITION WITH A SINGLE SAMPLE PER PERSON.....	62
<i>Wei Li, Jingliang Peng</i>	
AN ENERGY EFFICIENT ROUTING PROTOCOL WITH STABLE CLUSTER HEAD FOR REACTIVE WIRELESS SENSOR NETWORKS	69
<i>Taweesak Samanchuen</i>	
CONSTRAINED WIENER GAINS AND FILTERS FOR SINGLE-CHANNEL AND MULTICHANNEL NOISE REDUCTION	73
<i>Tao Long, Jacob Benesty, Jingdong Chen</i>	
AN EFFICIENT CONTENT AUTHENTICATION SCHEME IN ECIPHERED SPEECH BASED ON INTEGER WAVELET TRANSFORM	78
<i>Qing Qian, Hongxia Wang, Canghong Shi, Huan Wang</i>	
MOVING TARGET LOCALIZATION IN NONCOHERENT DISTRIBUTED MIMO RADAR SYSTEMS USING RANGE AND RANGE RATE MEASUREMENTS	86
<i>Yanbin Zou, Qun Wan</i>	
A STUDY ON SAMPLING OF STFT MODIFICATIONS IN TIME AND FREQUENCY DOMAINS FOR DNN-BASED SPEECH DEREVERBERATION	92
<i>Bo Wu, Kehuang Li, Minglei Yang, Chin-Hui Lee</i>	
A DISCRIMINATIVE TRAINING METHOD INCORPORATING PRONUNCIATION VARIATIONS FOR DYSARTHIC AUTOMATIC SPEECH RECOGNITION	96
<i>Woo Kyeong Seong, Nam Kyun Kim, Hun Kyu Ha, Hong Kook Kim</i>	
OPTIMAL AUTOMATIC SPEECH RECOGNITION SYSTEM SELECTION FOR NOISY ENVIRONMENTS	101
<i>Yuuki Tachioka, Tomohiro Narita</i>	
TEMPORAL DISTORTIONS IN H.265/HEVC	109
<i>Kaifang Yang, Shuai Wan, Yanchao Gong, Yuan Yang, Yan Feng</i>	
FAST SAMPLE ADAPTIVE OFFSET FOR H.265/HEVC BASED ON TEMPORAL DEPENDENCY	113
<i>Kaifang Yang, Shuai Wan, Yanchao Gong, Yuan Yang, Yan Feng</i>	

STYLE-ORIENTED LANDMARK RETRIEVAL AND SUMMARIZATION	117
<i>Wei-Yi Chang, Yi-Ren Yeh, Yu-Chiang Frank Wang</i>	
A HYBRID ALGORITHM FOR MULTIPLE PARAMETERS ESTIMATION WITH UCA OF ELECTROMAGNETIC VECTOR SENSORS	121
<i>Julan Xie, Xue Yang, Huiyong Li, Jinfeng Hu</i>	
A MODIFIED FSLMS ALGORITHM FOR NONLINEAR ANC	127
<i>Lei Luo, Jinwei Sun, Boyan Huang, Xiangbin Jiang</i>	
A NOVEL MODULATION CLASSIFICATION METHOD IN COGNITIVE RADIOS USING HIGHER-ORDER CUMULANTS AND DENOISING STACKED SPARSE AUTOENCODER	131
<i>Xu Zhu, Takeo Fujii</i>	
A FOLDING SUM TRANSFORMATION FOR BINARY CLASSIFICATION	136
<i>Kangrok Oh, Kar-Ann Toh</i>	
PATTERN LEARNING IN CLOSED-FORM	140
<i>Kar-Ann Toh</i>	
ZERO RESOURCE ANTI-SPOOFING DETECTION FOR UNIT SELECTION BASED SYNTHETIC SPEECH USING IMAGE SPECTROGRAM ARTIFACTS	141
<i>Su Jun Leow, Eng Siong Chng, Chin-Hui Lee</i>	
A FAST MULTI-FOCUS IMAGE FUSION ALGORITHM BY DWT AND FOCUSED REGION DECISION MAP	147
<i>Shumin Liu, Jiajia Chen</i>	
HIGHLIGHTING ROOT NOTES IN CHORD RECOGNITION USING CEPSTRAL FEATURES AND MULTI-TASK LEARNING	154
<i>Mu-Heng Yang, Li Su, Yi-Hsuan Yang</i>	
A FACIAL EXPRESSION MODEL WITH GENERATIVE ALBEDO TEXTURE	162
<i>Songnan Li, Fanzi Wu, Tianhao Zhao, Ran Shi, King Nghi Ngan</i>	
ROBUST FACE VERIFICATION VIA BAYESIAN SPARSE REPRESENTATION	166
<i>Chien-Yao Wang, Seksan Mathulapransan, Bo-Wei Chen, Yu-Hao Chin, Jing-Jia Shiu, Yu-San Linz, Jia-Ching Wang</i>	
CANINE EMOTIONAL STATES ASSESSMENT WITH HEART RATE VARIABILITY	170
<i>Eri Nakahara, Yuki Maruno, Takatomi Kubo, Rina Ouchi, Maki Katayama</i>	
VIDEO STABILIZATION WITH DISTORTION CORRECTION FOR WIDE-ANGLE LENS DASHCAM	173
<i>Hsin-Yuan Huang, Shuo-Han Yeh, Che-Tsung Lin, Shang-Hong Lai</i>	
THEORETICAL ANALYSIS OF LMS ALGORITHM FOR TIME-VARYING UNKNOWN SYSTEM	179
<i>Norihiro Ishibushi, Yoshinobu Kajikawa, Seiji Miyoshi</i>	
A NOVEL DUAL-THRESHOLD SIFT-BASED COPY-MOVE FORGERY DETECTION	183
<i>Haoqing Luan, N. F. Law</i>	
DETECTING MULTIPLE, SIMULTANEOUS TALKERS THROUGH LOCALISING SPEECH RECORDED BY AD-HOC MICROPHONE ARRAYS	188
<i>Shahab Pasha, Christian Ritz, Y. X Zou</i>	
A NOVEL PARALLEL-FRIENDLY RATE CONTROL SCHEME FOR HEVC	194
<i>Jianfeng Xie, Li Song, Rong Xie, Zhengyi Luo, Min Chen</i>	
A STUDY ON TARGET FEATURE ACTIVATION AND NORMALIZATION AND THEIR IMPACTS ON THE PERFORMANCE OF DNN BASED SPEECH DEREVERBERATION SYSTEMS	201
<i>Bo Wu, Kehuang Li, Minglei Yang, Chin-Hui Lee</i>	
REVIEW OF ITU-T PARAMETRIC MODELS FOR COMPRESSED VIDEO QUALITY ESTIMATION	205
<i>Yankai Liu, Li Song, Xiaokang Yang, Rong Xie, Wenjun Zhang</i>	
SALIENCY DETECTION USING SECONDARY QUANTIZATION IN DCT DOMAIN	213
<i>Xinyu Shen, Chunyu Lin, Yao Zhao, Hongyun Lin, Meiqin Liu</i>	
LIGHT FIELD UPSAMPLING BY JOINT BILATERAL FILTERING ON EPIPOLAR PLANE IMAGES	218
<i>Hao-Chiang Shao, Wen-Liang Hwang</i>	
NON-NEGATIVE PERIODIC COMPONENT ANALYSIS FOR MUSIC SOURCE SEPARATION	223
<i>Aki Hayashi, Hirokazu Kameoka, Tatsushi Matsubayashi, Hiroshi Sawada</i>	
A NOISE MASKING METHOD WITH ADAPTIVE THRESHOLDS BASED ON CASA	232
<i>Feng Bao, Waleed H. Abdulla</i>	
AN IMAGE BASED OVEREXPOSED TAILLIGHT DETECTION METHOD FOR FRONTAL VEHICLE DETECTION IN NIGHT VISION	237
<i>Chun-Liang Chien, Hsueh-Ming Hang, Din-Chang Tseng, Yong-Sheng Chen</i>	

A NOVEL PARAGRAPH EMBEDDING METHOD FOR SPOKEN DOCUMENT SUMMARIZATION	246
<i>Kuan-Yu Chen, Shih-Hung Liu, Berlin Chen, Hsin-Min Wang</i>	
EXPLOITING GRAPH REGULARIZED NONNEGATIVE MATRIX FACTORIZATION FOR EXTRACTIVE SPEECH SUMMARIZATION	252
<i>Shih-Hung Liu, Kuan-Yu Chen, Yu-Lun Hsieh, Berlin Chen, Hsin-Min Wang, Hsu-Chun Yen, Wen-Lian Hsu</i>	
HIGH DYNAMIC RANGE IMAGING BASED ON CAMERA RESPONSE ESTIMATION AND MULTI-GRADIENTS FUSION	259
<i>Daiki Kimura, Akira Kondo, Taichi Yoshida, Masahiro Iwahashi</i>	
SEARCH PROCESS IN METAHEURISTICS FOR CSD COEFFICIENT FIR FILTER DESIGN	263
<i>Tomohiro Sasahara, Kenji Suyama</i>	
FAST AND ACCURATE PERSONAL AUTHENTICATION USING EAR ACOUSTICS	269
<i>Takayuki Arakawa, Takafumi Koshinaka, Shohei Yano, Hideki Irisawa, Ryoji Miyahara, Hitoshi Imaoka</i>	
TOWARDS REAL BIOMETRICS : AN OVERVIEW OF FINGERPRINT LIVENESS DETECTION	273
<i>Wonjun Kim</i>	
TRAVEL PHOTO ALBUM SUMMARIZATION BASED ON AESTHETIC QUALITY, INTERESTINGNESS, AND MEMORABLENESS	276
<i>Jun-Hyuk Kim, Jong-Seok Lee</i>	
HOMOGRAPHY FLOW FOR DENSE CORRESPONDENCES	281
<i>Kihong Park, Seungryoung Kim, Kwanghoon Sohn</i>	
ONLINE SECONDARY-PATH-MODELING ANC SYSTEM WITH SIMULTANEOUS PERTURBATION METHOD	285
<i>Takahiro Shimizu, Yoshinobu Kajikawa</i>	
STATISTICAL ANALYSIS OF PHASE-ONLY CORRELATION FUNCTIONS BETWEEN TWO SIGNALS WITH STOCHASTIC BIVARIATE PHASE-SPECTRA	289
<i>Shunsuke Yamaki, Ryo Suzuki, Masayuki Kawamata, Makoto Yoshizawa</i>	
MULTI-TASK RECURRENT MODEL FOR SPEECH AND SPEAKER RECOGNITION	293
<i>Zhiyuan Tang, Lantian Li, Dong Wang</i>	
TOWARDS A DIRECT BAYESIAN ADAPTATION FRAMEWORK FOR DEEP MODELS	297
<i>Zhen Huang, Sabato Marco Siniscalchi, I-Fan Chen, Chin-Hui Lee</i>	
DOMAIN ADAPTATION OF A SPEECH TRANSLATION SYSTEM FOR LECTURES BY UTILIZING FREQUENTLY APPEARING PARALLEL PHRASES IN-DOMAIN	301
<i>Norioki Goto, Kazumasa Yamamoto, Seiichi Nakagawa</i>	
REGION BASED STEREO MATCHING METHOD WITH GRADIENT AND DISTANCE INFORMATION	305
<i>Yong-Jun Chang, Yo-Sung Ho</i>	
SALIENCY BASED RATE CONTROL SCHEME FOR HIGH EFFICIENCY VIDEO CODING	309
<i>Lixun Bai, Li Song, Rong Xie, Jianfeng Xie, M. Chen</i>	
DISTORTION BASED IMAGE QUALITY INDEX	315
<i>Jingwei Guan, Wai-Kuen Cham</i>	
FAST HEVC SCREEN CONTENT CODING BY SKIPPING UNNECESSARY CHECKING OF INTRA BLOCK COPY MODE BASED ON CU ACTIVITY AND GRADIENT	319
<i>Sik-Ho Tsang, Wei Kuang, Yui-Lam Chan, Wan-Chi Siu</i>	
ON THE USE OF I-VECTORS AND AVERAGE VOICE MODEL FOR VOICE CONVERSION WITHOUT PARALLEL DATA	324
<i>Jie Wu, Zhizheng Wu, Lei Xie</i>	
CONSIDERATION ON PERFORMANCE IMPROVEMENT OF SHADOW AND REFLECTION REMOVAL BASED ON GMM	330
<i>Kiyoshi Nishikawa, Yoshihiro Yamashita, Toru Yamaguchi, Takao Nishitani</i>	
SYSTEM COMBINATION FOR SHORT UTTERANCE SPEAKER RECOGNITION	337
<i>Lantian Li, Dong Wang, Xiaodong Zhang, Thomas Fang Zheng, Panshi Jin</i>	
REPRODUCING PERSONAL SOUND ZONES USING A HYBRID SYNTHESIS OF DYNAMIC AND PARAMETRIC LOUDSPEAKERS	342
<i>Jacob Donley, Christian Ritz, W. Bastiaan Kleijn</i>	
SPARSIFYING ORTHOGONAL TRANSFORMS WITH COMPACT BASES FOR DATA COMPRESSION	347
<i>Junhui Hou, Hui Liu, Lap-Pui Chau, Ying He, Jie Chen</i>	
LIGHT FIELD DEPTH FROM MULTI-SCALE PARTICLE FILTERING	351
<i>Jie Chen, Lap-Pui Chau, He Li</i>	
MEASUREMENT OF THE ACOUSTIC TRANSFER FUNCTION USING COMPRESSED SENSING TECHNIQUES	357
<i>Jian-Hong Pan, Chang-Chun Bao, Bing Bu, Mao-Shen Jia</i>	

SPEECH ENHANCEMENT METHOD WITH GEOMETRIC PHASE ESTIMATION BY INCORPORATING MIXMAX MODEL	361
<i>Xianyun Wang, Changchun Bao</i>	
ENHANCING A GLOSSECTOMY PATIENT'S SPEECH VIA GMM-BASED VOICE CONVERSION	365
<i>Kei Tanaka, Sunao Hara, Masanobu Abe, Shogo Minagi</i>	
PRICING BASED RESOURCE ALLOCATION SCHEME FOR VIDEO MULTICAST SERVICE IN LTE NETWORKS	369
<i>Chung-Nan Lee, Han-Ting Lai</i>	
PLENOPTIC IMAGE COMPRESSION BASED ON LINEAR TRANSFORMATION AND INTERPOLATION	374
<i>Haixu Han, Xin Jin, Qionghai Dai</i>	
JOINT SELECTIVE ENCRYPTION AND DATA EMBEDDING TECHNIQUE IN HEVC VIDEO	380
<i>Yiqi Tew, Koksheik Wong, Raphael C. W. Phan</i>	
FUSION OF COLOR AND DEPTH INFORMATION FOR IMAGE SEGMENTATION	385
<i>Jan Kristanto Wibisono, Hsueh-Ming Hang</i>	
SYNTHESIS OF IIR ERROR FEEDBACK FILTERS FOR π MODULATORS USING APPROXIMATION	390
<i>M. Rizwan Tariq, Shuichi Ohno, Masaaki Nagahara</i>	
AUTOMATIC PRONUNCIATION ASSESSMENT OF KOREAN SPOKEN BY L2 LEARNERS USING BEST FEATURE SET SELECTION	395
<i>Hyuksu Ryu, Hyejin Hong, Sunhee Kim, Minhwa Chung</i>	
BINOCULAR JND MODEL BASED STEREO IMAGE CODING	401
<i>Chuan Chang, Jui-Chiu Chiang, Wen-Nung Lie, Tzu-Chan Wu</i>	
BOOSTING DNN-BASED SPEECH ENHANCEMENT VIA EXPLICIT TRANSFORMATIONS	406
<i>Qing Wang, Jun Du, Li-Rong Dai</i>	
OPEN WORLD PLANT IMAGE IDENTIFICATION BASED ON CONVOLUTIONAL NEURAL NETWORK	410
<i>Siang Thye Hang, Masaki Aono</i>	
SIZE-INVARIANT FULLY CONVOLUTIONAL NEURAL NETWORK FOR VESSEL SEGMENTATION OF DIGITAL RETINAL IMAGES	414
<i>Yuansheng Luo, Hong Cheng, Lu Yang</i>	
PRIOR INFORMATION DIRECTED STAGE-WISE MEASUREMENT MATRIX DESIGN FOR BLOCK COMPRESSED IMAGE SENSING	421
<i>Mei Zhao, Anhong Wang, Zhiwei Xing, Peihao Li</i>	
VOICE-PATHOLOGY ANALYSIS BASED ON AR-HMM	425
<i>Akira Sasou</i>	
COLOR-DISTRIBUTION SIMILARITY BY INFORMATION THEORETIC DIVERGENCE FOR COLOR IMAGES	429
<i>Mizuki Murayama, Daisuke Oguro, Hisakazu Kikuchi, Heikki Huttunen, Yo-Sung Ho, Jaeho Shin</i>	
SMT-BASED LEXICON EXPANSION FOR BROADCAST TRANSCRIPTION	433
<i>Manon Ichiki, Aiko Hagiwara, Hitoshi Ito, Kazuo Onoe, Shoei Sato, Akio Kobayashi</i>	
AN IMPROVED SIMULATED ANNEALING GENETIC ALGORITHM OF EEG FEATURE SELECTION IN SLEEP STAGE	437
<i>Yundong Ji, Xiangeng Bu, Jinwei Sun, Zhiyong Liu</i>	
LOCAL ABUNDANCE REGULARIZATION FOR HYPERSPECTRAL SPARSE UNMIXING	441
<i>Mia Rizkinia, Masahiro Okuda</i>	
VEHICLE VERIFICATION IN TWO NONOVERLAPPED VIEWS USING SPARSE REPRESENTATION	447
<i>Shih-Chung Hsu, Chung-Lin Huang</i>	
SSA-BASED AUDIO-INFORMATION-HIDING SCHEME WITH PSYCHOACOUSTIC MODEL	456
<i>Jessada Karnjana, Masashi Unoki, Pakinee Aimmanee, Chai Wutiwiwatchai</i>	
2-DIMENSIONAL HIGH-QUALITY RECONSTRUCTION OF COMPRESSIVE MEASUREMENTS OF PHASED ARRAY WEATHER RADAR	466
<i>Ryosuke Kawami, Akira Hirabayashi, Nobuyuki Tanaka, Motoi Shibata, Takashi Ijiri, Shigeharu Shimamura, Hiroshi Kikuchi, Gwan Kim, Tomoo Ushio</i>	
MASK DESIGN FOR PINHOLE-ARRAY-BASED HAND-HELD LIGHT FIELD CAMERAS WITH APPLICATIONS IN DEPTH ESTIMATION	473
<i>Che-Wei Chang, Min-Hung Chen, Kuan-Chang Chen, Chi-Ming Yeh, Yi-Chang Lu</i>	
RELATIVE ENTROPY NORMALIZED GAUSSIAN SUPERVECTOR FOR SPEECH EMOTION RECOGNITION USING KERNEL EXTREME LEARNING MACHINE	477
<i>Ruru Li, Dali Yang, Xinxing Li, Renyu Wang, Mingxing Xu, Thomas Fang Zheng</i>	

VOICE CONVERSION TO EMOTIONAL SPEECH BASED ON THREE-LAYERED MODEL IN DIMENSIONAL APPROACH AND PARAMETERIZATION OF DYNAMIC FEATURES IN PROSODY	482
<i>Yawen Xue, Yasuhiro Hamada, Masato Akagi</i>	
IMAGE SUPER-RESOLUTION RECONSTRUCTION BASED ON FUSION OF K-SVD AND SEMI-COUPLED DICTIONARY LEARNING	488
<i>Xiu Zhang, Wei Zhou, Zhemin Duan</i>	
DEEP NETWORKS WITH STOCHASTIC DEPTH FOR ACOUSTIC MODELLING	493
<i>Duisheng Chen, Weibin Zhang, Xiangmin Xu, Xiaofeng Xing</i>	
NO-REFERENCE QUALITY ASSESSMENT FOR IMAGE SHARPNESS AND NOISE	497
<i>Lijuan Tang, Xiongkuo Min, Vinit Jakhetiya, Ke Gu, Xinfeng Zhang, Shuai Yang</i>	
PERCEPTUAL MULTIPLE DESCRIPTION CODING WITH RANDOMLY OFFSET QUANTIZERS	503
<i>Jingxiu Zong, Lili Meng, Yanyan Tan, Yuwei Ren</i>	
ANALYSIS OF ADAPTATION RATE OF THE FXLMS ALGORITHM	508
<i>Kiyonori Terauchi, Kimiko Motonaka, Yoshinobu Kajikawa, Seiji Miyoshi</i>	
COST AGGREGATION WITH GUIDED IMAGE FILTER AND SUPERPIXEL FOR STEREO MATCHING	512
<i>Eu-Tseum Baek, Yo-Sung Ho</i>	
I-VECTOR BASED DEEP NEURAL NETWORK ACOUSTIC MODEL ADAPTATION USING MULTILINGUAL LANGUAGE RESOURCE	516
<i>Haihua Xu, Wei Rao, Xiong Xiao, Hao Huang, Eng-Siong Chng, Haizhou Li</i>	
SPEECH EMOTION RECOGNITION USING CONVOLUTIONAL AND RECURRENT NEURAL NETWORKS	521
<i>Wootae Lim, Daeyoung Jang, Taejin Lee</i>	
OBJECT DISCOVERY IN DEPTH IMAGES	525
<i>Tzu-Wei Huang, Yu-An Wei, Hwann-Tzong Chen, Jenchi Liu</i>	
USING TONE-BASED EXTENDED RECOGNITION NETWORK TO DETECT NON-NATIVE MANDARIN TONE MISPRONUNCIATIONS	530
<i>Wei Li, Sabato Marco Siniscalchi, Nancy F. Chen, Chin-Hui Lee</i>	
PREDICTING ARTICULATORY MOVEMENT FROM TEXT USING DEEP ARCHITECTURE WITH STACKED BOTTLENECK FEATURES	534
<i>Zhen Wei, Zhizheng Wu, Lei Xie</i>	
ADAPTIVE SUBSPACE-CONSTRAINED DIAGONAL LOADING	540
<i>Yueh Ting Tsai, Borching Su, Yu Tsao, Syu-Siang Wang</i>	
FAST RQT STRUCTURE DECISION METHOD FOR HEVC	544
<i>Wei Zhou, Chang Yan, Henglu Wei, Guanwen Zhang, Ai Qing, Xin Zhou</i>	
SALIENCY AWARE FAST INTRA CODING ALGORITHM FOR HEVC	548
<i>Liyuan Xiong, Wei Zhou, Xin Zhou, Guanwen Zhang, Ai Qing</i>	
ITERATIVE CLOSEST POINTS METHOD BASED ON PHOTOMETRIC WEIGHT FOR 3D OBJECT RECONSTRUCTION	553
<i>Dong-Won Shin, Yo-Sung Ho</i>	
SPEECH EMOTION CLASSIFICATION USING MULTIPLE KERNEL GAUSSIAN PROCESS	557
<i>Sih-Huei Chen, Jia-Ching Wang, Wen-Chi Hsieh, Yu-Hao Chin, Chin-Wen Ho, Chung-Hsien Wu</i>	
VIDEO OBJECT SEGMENTATION USING MULTIPLE RANDOM WALKERS WITH GMM RESTART RULE	561
<i>Minhyeok Heo, Won-Dong Jang, Chang-Su Kim</i>	
ENHANCEMENT OF NOISY LOW-LIGHT IMAGES VIA STRUCTURE-TEXTURE-NOISE DECOMPOSITION	566
<i>Jaemoon Lim, Minhyeok Heo, Chul Lee, Chang-Su Kim</i>	
ROBUST SCALABLE VIDEO MULTICAST USING TRIANGULAR NETWORK CODING IN LTE/LTE-ADVANCED	571
<i>Phuc Chau, Yongwoo Lee, Toan Duc Bui, Jitae Shin, Jaehoon Jeong</i>	
MINING USER INTERESTS FROM SOCIAL MEDIA BY FUSING TEXTUAL AND VISUAL FEATURES	577
<i>Fang-Yu Chao, Jia Xu, Chia-Wen Lin</i>	
FRAME RATE UP CONVERSION FOR MULTIVIEW VIDEO	585
<i>Yoonmo Yang, Dohoon Lee, Byung Tae Oh</i>	
SUDDEN-NOISE SUPPRESSION WITH STRIKE-PORTION DETECTION BASED ON PHASE LINEARITY FOR SPEECH RECOGNITION	588
<i>Terumi Umematsu, Shuji Komeiji, Masanori Tsujikawa, Ryosuke Isotani</i>	

DEEP NEURAL NETWORK BASED VOICE CONVERSION WITH A LARGE SYNTHESIZED PARALLEL CORPUS	592
<i>Zhengqi Wen, Kehuang Li, Jianhua Tao, Chin-Hui Lee</i>	
GRAPH REGULARIZED IMPLICIT POSE FOR 3D HUMAN ACTION RECOGNITION	597
<i>Tommi Kerola, Nakamasa Inoue, Koichi Shinoda</i>	
A FAST CU PARTITIONING ALGORITHM IN HEVC INTER PREDICTION FOR HD/UHD VIDEO	601
<i>Ai Qing, Wei Zhou, Henglu Wei, Xin Zhou, Guanwen Zhang, Jiamin Yang</i>	
CONTENT COMPLEXITY BASED JUST NOTICEABLE DIFFERENCE ESTIMATION IN DCT DOMAIN	606
<i>Jinjian Wu, Wenfei Wan, Guangming Shi</i>	
EFFICIENT DEEP NEURAL NETWORKS FOR SPEECH SYNTHESIS USING BOTTLENECK FEATURES	611
<i>Young-Sun Joo, Won-Suk Jun, Hong-Goo Kang</i>	
MOVING SHADOW DETECTION AND REMOVAL FOR VIDEO-BASED TRAFFIC MONITORING	615
<i>Dale Joshua R. Del Carmen, Rhandley D. Cajote</i>	
IMPROVING BLSTM RNN BASED MANDARIN SPEECH RECOGNITION USING ACCENT DEPENDENT BOTTLENECK FEATURES	622
<i>Jiangyan Yi, Hao Ni, Zhengqi Wen, Jianhua Tao</i>	
BEAMFORMING NETWORKS USING SPATIAL COVARIANCE FEATURES FOR FAR-FIELD SPEECH RECOGNITION	627
<i>Xiong Xiao, Shinji Watanabe, Eng Siong Chng, Haizhou Li</i>	
SCALE-CHANGE AWARE LOCALLY ADAPTIVE OPTICAL FLOW	633
<i>Euyoung Kim, Kyoung Mu Lee</i>	
CODESTREAM LEVEL SECURE IDENTIFICATION FOR JPEG 2000 IMAGES UNDER VARIOUS COMPRESSION RATIOS	637
<i>Kenta Iida, Hitoshi Kiya</i>	
INCREMENTAL APPROACH TO NMF BASIS ESTIMATION FOR AUDIO SOURCE SEPARATION	643
<i>Kisoo Kwon, Jong Won Shin, Inkyu Choi, Hyung Yong Kim, Nam Soo Kim</i>	
MESH-BASED IMAGE RETARGETING WITH SPECTRAL GRAPH FILTERING	648
<i>Yuichi Tanaka, Saho Yagyu, Akie Sakiyama, Masaki Onuki</i>	
ADAPTIVE BOOLEAN COMPRESSIVE SENSING BY SEQUENTIAL POOL-DESIGN	654
<i>Yohei Kawaguchi, Masahito Togami</i>	
MEASURE OF IMAGE FOCUS USING IMAGE SEGMENTATION AND SML FOR LIGHT FIELD IMAGES	659
<i>Wisarat Chantara, Yo-Sung Ho</i>	
AUDIO-VISUAL SPEECH ENHANCEMENT USING DEEP NEURAL NETWORKS	663
<i>Jen-Cheng Hou, Syu-Siang Wang, Ying-Hui Lai, Jen-Chun Lin, Yu Tsao, Hsiu-Wen Chang, Hsin-Min Wang</i>	

VOLUME 2

DISTRIBUTED COMPRESSION SENSING ORIENTED SOFT VIDEO TRANSMISSION WITH 1D-DCT OVER WIRELESS	669
<i>Kai Zhang, Anhong Wang, Haidong Wang</i>	
TACTILE BRAIN-COMPUTER INTERFACE USING CLASSIFICATION OF P300 RESPONSES EVOKED BY FULL BODY SPATIAL VIBROTACTILE STIMULI	674
<i>Takumi Kodama, Shoji Makino, Tomasz M. Rutkowski</i>	
ON EFFICIENT ENCODING OF FOREGROUND OBJECTS USING HERMITIAN SYMMETRIC DFT CODES	682
<i>N. Narendra, A. Anil Kumar, M. Girish Chandra, P. Balamuralidhar</i>	
UNSUPERVISED SINGLE-CHANNEL SPEECH SEPARATION VIA DEEP NEURAL NETWORK FOR DIFFERENT GENDER MIXTURES	690
<i>Yannan Wang, Jun Du, Li-Rong Dai, Chin-Hui Lee</i>	
STUDY ON NEAR-FIELD CROSSTALK CANCELLATION BASED ON LEAST SQUARE ALGORITHM	694
<i>Pengyun Guang, Zhonghua Fu, Lei Xie, Wenjie Zhao</i>	
SPOOFING SPEECH DETECTION USING TEMPORAL CONVOLUTIONAL NEURAL NETWORK	699
<i>Xiaohai Tian, Xiong Xiao, Eng Siong Chng, Haizhou Li</i>	

A DRIVING ASSISTANCE SYSTEM WITH VISION BASED VEHICLE DETECTION TECHNIQUES.....	705
<i>Jyun-Min Dai, Lu-Ting Wu, Huei-Yung Lin, Wen-Lung Tai</i>	
NOVEL SELF-PORTRAIT ENHANCEMENT VIA MULTI-PHOTO FUSING	714
<i>Sifeng Xia, Shuai Yang, Jiaying Liu, Zongming Guo</i>	
AUTOMATIC HEART AND LUNG SOUNDS CLASSIFICATION USING CONVOLUTIONAL NEURAL NETWORKS	718
<i>Qiyu Chen, Weibin Zhang, Xiang Tian, Xiaoxue Zhang, Shaoqiong Chen, Wenkang Lei</i>	
HEAD POSE ESTIMATION USING RANDOM FOREST AND TEXTURE ANALYSIS	722
<i>Min-Joo Kang, Ha-Yeon Lee, Je-Won Kang</i>	
IMPROVED KEYWORD SPOTTING BASED ON KEYWORD/GARBAGE MODELS.....	726
<i>Qiyu Chen, Weibin Zhang, Xiangmin Xu, Xiaofen Xing</i>	
BACKGROUND PRIORS BASED SALIENCY OBJECT DETECTION	730
<i>Zexia Liu, Guanghua Gu, Chunxia Chen, Dong Cui, Chunyu Lin</i>	
CLASSIFICATION OF HOME APPLIANCE BY USING PROBABILISTIC KNN WITH SENSOR DATA	734
<i>Seungjun Kang, Ji Won Yoon</i>	
DUAL-CAMERA HDR SYNTHESIS GUIDED BY LONG-EXPOSURE IMAGE	739
<i>Po-Jung Wu, Kuang-Tsu Shih, Homer Chen</i>	
A LOW POWER LOSSY FRAME MEMORY RECOMPRESSION ALGORITHM	743
<i>Xin Zhou, Xiaocong Lian, Wei Zhou, Zhenyu Liu, Xiu Zhang</i>	
GENERAL EXPANSION-SHIFTING MODEL FOR REVERSIBLE DATA HIDING	747
<i>Xiaolong Li, Zongming Guo</i>	
DYNAMIC CONVOLUTIONAL NEURAL NETWORK FOR ACTIVITY RECOGNITION	751
<i>Chih-Hsiang You, Chen-Kuo Chiang</i>	
SMOOTHING OF XDWN SPATIAL FILTERS FOR ROBUST EXTRACTION OF EVENT-RELATED POTENTIALS	756
<i>Hiroshi Higashi, Tomasz M. Rutkowski, Toshihisa Tanaka, Yuichi Tanaka</i>	
IMAGE SMOOTHING IN THE SPATIAL DOMAIN USING MULTIGRID CONJUGATE GRADIENT METHODS BASED ON ACCELERATED ITERATIVE SHRINKAGE	761
<i>Dabwitsso Kasauka, Hiroshi Tsutsui, Seiji Imai, Takashi Imagawa</i>	
SPEECH ANALYSIS AND DEPRESSION	766
<i>Tan Tze Ern Shannon, Dai Jingwen Annie, See Swee Lan</i>	
DNN-BASED VOICE ACTIVITY DETECTION WITH LOCAL FEATURE SHIFT TECHNIQUE	770
<i>Tae Gyoon Kang, Kang Hyun Lee, Woo Hyun Kang, Soo Hyun Bae, Nam Soo Kim</i>	
EGO NOISE REDUCTION FOR HOSE-SHAPED RESCUE ROBOT COMBINING INDEPENDENT LOW-RANK MATRIX ANALYSIS AND NOISE CANCELLATION	774
<i>Narumi Mae, Daichi Kitamura, Masaru Ishimura, Takeshi Yamada, Shoji Makino</i>	
A SYSTOLIC FXLMS STRUCTURE FOR IMPLEMENTATION OF FEEDFORWARD ACTIVE NOISE CONTROL ON FPGA	780
<i>Dongyuan Shi, Chuang Shi, Woon-Seng Gan</i>	
APPEARANCE DEPENDENT INTER-PART RELATIONSHIP FOR HUMAN POSE ESTIMATION	786
<i>Yumin Suh, Kyoung Mu Lee</i>	
IMAGE COPY-MOVE FORGERY DETECTION USING HIERARCHICAL FEATURE POINT MATCHING	790
<i>Yuanman Li, Jiantao Zhou</i>	
NEAR-SOUND-FIELD PROPAGATION BASED ON INDIVIDUAL BEAM-STEERING FOR CARRIER AND SIDEBAND WAVES WITH PARAMETRIC ARRAY LOUDSPEAKER	794
<i>Masato Nakayama, Ryosuke Konabe, Takahiro Fukumori, Takanobu Nishiura</i>	
UNSUPERVISED DETECTION OF NON-STATIONARY SEGMENTS BASED ON SINGLE-BASIS NON-NEGATIVE MATRIX FACTORIZATION FOR EFFECTIVE ANNOTATION	802
<i>Thanh Thi Hien Duong, Nobutaka Ono, Yasutaka Nakajima, Toshiya Ohshima</i>	
DIGITAL MIRROR BOX: AN INTERACTIVE HAND-MOTOR BMI REHABILITATION TOOL FOR STROKE PATIENTS	808
<i>Yumie Ono, Takanori Tominaga, Takaho Murata</i>	
ADAPTIVE GROWING AND MERGING ALGORITHM FOR IMAGE SEGMENTATION	815
<i>Hsuan-Yi Ko, Jian-Jiun Ding</i>	
AUDIO SIGNAL SEPARATION USING SUPERVISED NMF WITH TIME-VARIANT ALL-POLE-MODEL-BASED BASIS DEFORMATION	825
<i>Hiroaki Nakajima, Daichi Kitamura, Norihiro Takamune, Shoichi Koyama, Hiroshi Saruwatari, Yu Takahashi, Kazunobu Kondo</i>	

COLORIMETRIC BACKGROUND ESTIMATION FOR COLOR BLENDING REDUCTION OF OST-HMD	832
<i>Je-Ho Ryu, Jae-Woo Kim, Kang-Kyu Lee, Jong-Ok Kim</i>	
ADVANCED QUERY BY HUMMING SYSTEM USING DIFFUSED HIDDEN MARKOV MODEL AND TEMPO BASED DYNAMIC PROGRAMMING	836
<i>Chiao-Wei Lin, Jian-Jiun Ding, Che-Ming Hu</i>	
SALIENCY DETECTION USING QUATERNIONIC DISTANCE BASED WEBER DESCRIPTOR AND OBJECT CUES	843
<i>Muwei Jian, Qiang Qi, Junyu Dong, Xin Sun, Yujuan Sun, Kin-Man Lam</i>	
EVALUATION OF SINGING ENTHUSIASM FOR SONGS WITH MULTIPLE PHRASES	847
<i>Pei Pei Chen, Shyh-Kang Jeng, Jyh-Shing Roger Jang, Nobutaka Ono</i>	
THINNING DEEP NEURAL NETWORKS FOR SKETCH RECOGNITION	851
<i>Pyunghwan Ahn, Dong Hoon Shin, Junmo Kim</i>	
THE ALPHA-TRIMMING MEAN FILTER FOR VIDEO STABILIZATION	855
<i>Jinju Lim, Min-Cheol Hong</i>	
MULTIRATE AUDIO-INTEGRATED ADAPTIVE FEEDBACK ANC SYSTEMS	859
<i>Antonius Siswanto, Cheng-Yuan Chang, Sen M. Kuo</i>	
SHAPE-ADAPTIVE IMAGE COMPRESSION USING LOSSY SHAPE CODING, SA-PREDICTION, AND SA-DEBLOCKING	864
<i>Li-Ang Chen, Jian-Jiun Ding, Yih-Cherng Lee</i>	
UNDERWATER MULTI-SPECTRAL PHOTOMETRIC STEREO RECONSTRUCTION FROM A SINGLE RGBD IMAGE	874
<i>Hengchao Jiao, Yisong Luo, Nan Wang, Lin Qi, Junyu Dong, Hansheng Lei</i>	
TIME-OF-FLIGHT IMAGE ENHANCEMENT FOR DEPTH MAP	878
<i>Yunseok Song, Yo-Sung Ho</i>	
TIBETAN VOWEL ANALYSIS WITH A MULTI-MODAL MANDARIN-TIBETAN SPEECH CORPUS	882
<i>Gyaltzen Lobsang, Wenhuan Lu, Kiyoshi Honda</i>	
ACOUSTIC PROBING TO ESTIMATE FRESHNESS OF TOMATO	888
<i>Hidetomo Kataoka, Takashi Ijiri, Jeremy White, Akira Hirabayashi</i>	
SELF-LOCALIZATION AND CHANNEL SYNCHRONIZATION OF SMARTPHONE ARRAYS USING SOUND EMISSIONS	893
<i>Nobutaka Ono, Kazuaki Shibata, Hirokazu Kameoka</i>	
SPARSE SPATIAL FILTERING IN FREQUENCY DOMAIN OF MULTI-CHANNEL EEG FOR FREQUENCY AND PHASE DETECTION	898
<i>Naoki Morikawa, Toshihisa Tanaka</i>	
AUTHENTICATION OF MP4 FILE BY JOINT DATA EMBEDDING IN AUDIO AND VIDEO TRACKS	905
<i>Imdad Maungmaung, Yiqi Tew, Koksheik Wong</i>	
BILATERAL HEMIFACE FEATURE REPRESENTATION LEARNING FOR POSE ROBUST FACIAL EXPRESSION RECOGNITION	911
<i>Wissam J. Baddar, Yong Man Ro</i>	
COMPUTER-ASSISTED PRONUNCIATION TRAINING: FROM PRONUNCIATION SCORING TOWARDS SPOKEN LANGUAGE LEARNING	915
<i>Nancy F. Chen, Haizhou Li</i>	
ACOUSTIC SCENE CHANGE DETECTION BY SPECTRO- TEMPORAL FILTERING ON SPECTROGRAM USING CHIRPS	922
<i>Chang-Hong Lin, Kah-Meng Cheong, Mao-Chang Huang, Ming-Yen Chen, Chen-Kuei Chang, Tai-Shih Chi</i>	
GAZE ESTIMATION USING 3-D EYEBALL MODEL AND EYELID SHAPES	927
<i>Sang Yoon Han, Insung Hwang, Sang Hwa Lee, Nam Ik Cho</i>	
VOICE CONVERSION FROM NON-PARALLEL CORPORA USING VARIATIONAL AUTO-ENCODER	931
<i>Chin-Cheng Hsu, Hsin-Te Hwang, Yi-Chiao Wu, Yu Tsao, Hsin-Min Wang</i>	
SCALABLE MULTIPLE GPU ARCHITECTURE FOR SUPER MULTI-VIEW SYNTHESIS USING MVD	937
<i>Byoungkyun Kim, Byeongho Choi, Youngbae Hwang</i>	
HIGH ACCURACY RECONSTRUCTION ALGORITHM FOR CS-MRI USING SDMM	943
<i>Motoi Shibata, Norihito Inamuro, Takashi Ijiri, Akira Hirabayashi</i>	
ANALYSIS ON DIGITAL HOLOGRAPHIC DATA REPRESENTATION AND COMPRESSION	949
<i>Kwan-Jung Oh, Hyon-Gon Choo, Jinwoong Kim</i>	
ALGORITHMS FOR COMPARISON IN RESIDUE NUMBER SYSTEMS	953
<i>Hanshen Xiao, Yu Ye, Guoqiang Xiao, Qin Kang</i>	

INVESTIGATION OF GLOTTAL FEATURES AND ANNOTATION PROCEDURES FOR SPEECH EMOTION RECOGNITION.....	959
<i>Masaaki Takebe, Kazumasa Yamamoto, Seiichi Nakagawa</i>	
PERFORMANCE ESTIMATION OF SPONTANEOUS SPEECH RECOGNITION USING NON-REFERENCE ACOUSTIC FEATURES.....	963
<i>Ling Guo, Takeshi Yamada, Shoji Makino</i>	
ENSEMBLE BASED SPEAKER VERIFICATION USING ADAPTED SCORE FUSION IN NOISY REVERBERANT ENVIRONMENTS.....	967
<i>Ryosuke Nakanishi, Sayaka Shiota, Hitoshi Kiya</i>	
INVESTIGATION ON ACOUSTIC MODELING WITH DIFFERENT PHONEME SET FOR CONTINUOUS LHASA TIBETAN RECOGNITION BASED ON DNN METHOD.....	972
<i>Hongcui Wang, Kuntharrgyal Khyuru, Jian Li, Guanyu Li, Jianwu Dang, Lixia Huang</i>	
API6-OL7: A MULTILINGUAL DATABASE FOR ORIENTAL LANGUAGES AND A LANGUAGE RECOGNITION BASELINE.....	976
<i>Dong Wang, Lantian Li, Difei Tang, Qing Chen</i>	
PARAMETER SETTINGS ON DOA ESTIMATION OF MULTI-BAND SIGNALS USING A COMPRESSED SENSING TECHNIQUE.....	981
<i>Toshihiko Nishimura, Taiki Endo, Takeo Ohgane, Yasutaka Ogawa</i>	
DEPTH MAP ESTIMATION WITH 4D LIGHT FIELDS USING CONFOCAL STEREO.....	987
<i>Qi Chen, Yuchen Zhang, Xiaochun Cao, Yunfei Zhang, Hongkai Xiong</i>	
LOCALITY SENSITIVE DISCRIMINANT ANALYSIS FOR SPEAKER VERIFICATION.....	991
<i>Danwei Cai, Weicheng Cai, Zhidong Ni, Ming Li</i>	
MULTI-LINGUAL AND MULTI-TASK DNN LEARNING FOR ARTICULATORY ERROR DETECTION.....	996
<i>Richeng Duan, Tatsuya Kawahara, Masatake Dantsuji, Jinsong Zhang</i>	
A NEW METHOD OF ACCELERATION MEASUREMENT FOR OBSERVING TONGUE MOVEMENT IN ULTRASOUND IMAGE DURING SPEECH PRODUCTION.....	1000
<i>Yu Chen, Ju Zhang, Fei Chen, Yanting Chen, Hua Lin, Jianguo Wei, Jianwu Dang</i>	
DECISION MAKING BASED ON COHORT SCORES FOR SPEAKER VERIFICATION.....	1004
<i>Lantian Li, Renyu Wang, Gang Wang, Caixia Wang, Thomas Fang Zheng</i>	
SPEAKER RECOGNITION IN DURATION-MISMATCHED CONDITION USING BOOTSTRAPPED I-VECTORS.....	1008
<i>Atsushi Ando, Taichi Asami, Yoshikazu Yamaguchi, Yushi Aono</i>	
CONTENT-BASED WEBTOON FINGERPRINT METHOD.....	1012
<i>Doyoung Kim, Sang-Hoon Lee, Sagar Vasant Jadhav, Sanghoon Lee</i>	
MANDARIN CITATION TONE PATTERNS OF PRELINGUAL CHINESE DEAF ADULTS.....	1016
<i>Yanting Chen, Yu Chen, Jin Zhang, Ju Zhang, Hua Lin, Jianguo Wei, Jianwu Dang</i>	
DIRECTION-OF-ARRIVAL ESTIMATION VIA KHATRI-RAO SUBSPACE USING COMPRESSED SENSING.....	1020
<i>Hirotaaka Mukumoto, Kazunori Hayashi, Megumi Kaneko</i>	
DISTRIBUTED COMPRESSED VIDEO SENSING OF MULTI-VIEW IMAGES USING ADMM.....	1024
<i>Taichi Sumi, Ikumi Nakamura, Yoshimitsu Kuroki</i>	
POSITION ESTIMATION OF LED MATRIX IN IMAGE SENSOR COMMUNICATION.....	1029
<i>Takazumi Asai, Tomohiro Yendo, Shintaro Arai, Takaya Yamazato, Hiraku Okada, Tashiaki Fuji, Koji Kamakura</i>	
IMPROVED ETSI ADVANCED FRONT-END FOR ASR BASED ON ROBUST COMPLEX SPEECH ANALYSIS.....	1034
<i>Keita Higa, Keiichi Funaki</i>	
ARBITRARY UNICAST TRANSMISSION OVER MIMO MULTI-WAY RELAY CHANNEL WITH IMPERFECT CSI.....	1038
<i>Yuechi Cao, Kazunori Hayashi, Fanggang Wang</i>	
SEMI-AUTOMATIC 2D-TO-3D VIDEO CONVERSION BASED ON BACKGROUND SPRITE GENERATION.....	1045
<i>Wen-Nung Lie, Shao-Ting Chiu, Jui-Chiu Chiang</i>	
FAST BILATERAL FILTER FOR MULTICHANNEL IMAGES VIA SOFT-ASSIGNMENT CODING.....	1050
<i>Kenjiro Sugimoto, Norishige Fukushima, Sei-Ichiro Kamata</i>	
IMPROVING FEATURE PRESERVATION IN HIGH EFFICIENCY VIDEO CODING STANDARD.....	1054
<i>Sovann Chen, Htoo Maung Maung, Supavadee Aramvith</i>	
FAST CONVOLUTION TECHNIQUE FOR NON-SEPARABLE OVERSAMPLED LAPPED TRANSFORMS.....	1059
<i>Kota Horiuchi, Shogo Muramatsu</i>	

INVESTIGATION OF NOUN-VERB DISSOCIATION BASED ON EEG SOURCE RECONSTRUCTION	1065
<i>Bin Zhao, Jianwu Dang, Gaoyan Zhang</i>	
ON THE TRAINING OF DNN-BASED AVERAGE VOICE MODEL FOR SPEECH SYNTHESIS	1072
<i>Shan Yang, Zhizheng Wu, Lei Xie</i>	
OCTAGONAL FORMATION OF ULTRASONIC ARRAY SENSORS FOR FALL DETECTION	1078
<i>Chokemongkol Nadee, Kosin Chamnongthai</i>	
DNN BASED DETECTION OF PRONUNCIATION ERRONEOUS TENDENCY IN DATA SPARSE CONDITION	1082
<i>Yingming Gao, Yanlu Xie, Ju Lin, Jinsong Zhang</i>	
MULTI-TASK RECURRENT MODEL FOR TRUE MULTILINGUAL SPEECH RECOGNITION.....	1087
<i>Zhiyuan Tang, Lantian Li, Dong Wang</i>	
DEPTH GUIDED SELECTION OF ADAPTIVE REGION OF INTEREST FOR GRAB CUT-BASED IMAGE SEGMENTATION	1091
<i>Garam Kim, Jae-Young Sim</i>	
FEATURE TRANSFORMATION FOR SPEAKER VERIFICATION UNDER SPEAKING RATE MISMATCH CONDITION	1095
<i>Askar Rozi, Lantian Li, Dong Wang, Thomas Fang Zheng</i>	
ACTIVE NOISE CONTROL SYSTEMS WITH SIMPLIFIED PERIOD AWARE LINEAR PREDICTION METHOD FOR MR NOISE	1099
<i>Hitoshi Sawano, Yoshinobu Kajikawa</i>	
BRAIN-COMPUTER INTERFACE TECHNOLOGY FOR SPEECH RECOGNITION: A REVIEW	1103
<i>Mashaël M. Alsaleh, Mahnaz Arvaneh, Heidi Christensen, Roger K. Moore</i>	
STEREO MATCHING USING CENSUS TRANSFORM OF ADAPTIVE WINDOW SIZES WITH GRADIENT IMAGES.....	1108
<i>Jaeryun Ko, Yo-Sung Ho</i>	
ESTIMATION METHOD OF INITIAL LABELS FOR PROPAGATION-BASED SALIENCY DETECTION	1112
<i>You Umeki, Taichi Yoshida, Masahiro Iwahashi</i>	
RECOGNITION OF LOW-RESOLUTION FACE IMAGES USING SPARSE CODING OF LOCAL FEATURES.....	1116
<i>M. Saad Shakeel, Kin Man-Lam</i>	
ARBITRARY SPEAKER CONVERSION BASED ON SPEAKER SPACE BASES CONSTRUCTED BY DEEP NEURAL NETWORKS	1121
<i>Tetsuya Hashimoto, Daisuke Saito, Nobuaki Minematsu</i>	
RECENT ADVANCES IN SOUND FIELD CONTROL SYSTEMS: FROM PERSONAL AUDIO TO SMART SOUND SYSTEMS	1125
<i>Jung-Woo Choi</i>	
PREDICTING RISK OF SUICIDE USING RESTING STATE HEART RATE	1127
<i>Daud Sikander, Mahnaz Arvaneh, Francesco Amico, Graham Healy, Tomas Ward, Damien Kearney, Eva Mohedano, Jennifer Fagan, John Yek, Alan F. Smeaton, Justin Brophy</i>	
DEPTH IMAGE SUPER-RESOLUTION VIA MULTI-FRAME REGISTRATION AND DEEP LEARNING.....	1131
<i>Ching Wei Tseng, Hong-Ren Su, Shang-Hong Lai, Jenchi Liu</i>	
SOUND IMAGERY CONTRIBUTES TO FOOT MI-BASED BCI EVEN THROUGH IT DOES NOT INFLUENCE ON THE SENSORIMOTOR RHYTHMS	1139
<i>Kosuke Kitahara, Yoshikatsu Hayashi, Toshiyuki Kondo, Shiro Yano</i>	
ON THE DEVELOPMENT OF BCI AND ITS NEUROFEEDBACK TRAINING SYSTEM FOR ASSISTIVE COMMUNICATION DEVICE IN PERSONS WITH SEVERE DISABILITY	1145
<i>Yunyong Punsawad, Sansit Ngamrussameewong, Yodchanan Wongsawat</i>	
THE COVARIANCE SELECTION QUALITY FOR GRAPHS WITH JUNCTION TREES THROUGH AUC BOUNDS	1149
<i>Navid Tafaghodi Khajavi, Anthony Kuh</i>	
PERSONAL BINOCULAR VISION CALIBRATION USING LAYERED RANDOM DOT STEREOGRAM	1155
<i>Min-Koo Kang, Sung-Kyu Kim</i>	
LEARNING ORDERED WORD REPRESENTATIONS WITH γ-DECAY DROPOUT	1159
<i>Aiting Liuy, Chao Xing, Yang Feng, Dong Wang</i>	
A CENSUS TRANSFORM-BASED ROBUST STEREO MATCHING UNDER RADIOMETRIC CHANGES	1164
<i>Jaeseung Lim, Yongho Kim, Sangkeun Lee</i>	

INDOOR GPS WITH CENTIMETER ACCURACY USING WIFI	1168
<i>Chen Chen, Yi Han, Yan Chen, K. J. Ray Liu</i>	
JOINT LEARNING OF SIMILARITY GRAPH AND IMAGE CLASSIFIER FROM PARTIAL LABELS	1172
<i>Yu Mao, Gene Cheung, Chia-Wen Lin, Yusheng Ji</i>	
SPARSE SOURCE RECOVERY WITH GRAPH IN NETWORK CODING	1176
<i>Sung Bok Yu, Yoonsik Choe</i>	
AN IMPROVED LEA BLOCK ENCRYPTION ALGORITHM TO PREVENT SIDE-CHANNEL ATTACK IN THE IOT SYSTEM	1180
<i>Jaehak Choi, Youngseop Kim</i>	
PERCEPTUAL ENCRYPTION METHOD FOR VECTOR MAP BASED ON GEOMETRIC TRANSFORMATIONS	1184
<i>P. N. Giao, Kwon Oh-Jun, Suk-Hwan Lee, Ki-Ryong Kwon</i>	
FUNDAMENTAL STUDY OF DECOMPOSITION BASED ON HETEROGENEOUS SENSING DATA IN PHYSICAL CONVERSION SENSOR NETWORKS	1188
<i>Minato Oriuchi, Osamu Takyu, Mai Ohta, Takeo Fujii</i>	
ON SINGLE CHANNEL SAMPLING IN SHIFT-INVARIANT SPACES ASSOCIATED WITH THE FRACTIONAL FOURIER TRANSFORM DOMAIN	1192
<i>Sinuk Kang</i>	
KL-DIVERGENCE BASED MISPRONUNCIATION DETECTION VIA DNN AND DECISION TREE IN THE PHONETIC SPACE	1197
<i>Wenping Hu, Frank K Soong</i>	
DISPARITY MAP ESTIMATION USING SEMI-GLOBAL MATCHING BASED ON IMAGE SEGMENTATION	1203
<i>Eunsang Ko, Yo-Sung Ho</i>	
A SCALABLE CODING BASED ON STRUCTURE-PRESERVING FILTER AND SALIENCY-ORDERED TRANSMISSION	1207
<i>Dae-Hyun Lee, Bora Jin, Jewoong Ryu, Nam Ik Cho</i>	
DISCRETE FEATURE TRANSFORM FOR LOW-COMPLEXITY SINGLE-IMAGE SUPER-RESOLUTION	1211
<i>Jonghee Kim, Changick Kim</i>	
BLUR KERNEL RE-INITIALIZATION FOR BLIND IMAGE DEBLURRING	1213
<i>Hyukzae Lee, Changick Kim</i>	
Author Index	