

2017 International Conference on Wavelet Analysis and Pattern Recognition (ICWAPR 2017)

**Ningbo, China
9 – 12 July 2017**



**IEEE Catalog Number: CFP1719C-POD
ISBN: 978-1-5386-0413-7**

**Copyright © 2017 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. 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:	CFP1719C-POD
ISBN (Print-On-Demand):	978-1-5386-0413-7
ISBN (Online):	978-1-5386-0412-0
ISSN:	2158-5695

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

Contents

Greetings from General Chairs	I
Greetings from Program Chairs	II
Organizing Committee	III
Program Committee	V
List of Reviewers	VI

Contributed Papers

MULTIGRANULATION SOFT ROUGH SETS

BINGJIAO FAN, ERIC C.C. TSANG, WENTAO LI, XIAOPING XUE.....	1
---	---

AN APPLICATION OF LOSSY COMPRESSION OF THE ECHOLOCATION SIGNALS OF TOOTHED WHALE

XIAO XU, HUAIRUI WANG, RUIQIN FAN, XIAOYUN LI.....	7
--	---

DIRECT WEIGHT STRUCTURE FOR PHASE ARRAY RADAR

YUNXIA LIANG	13
--------------------	----

RESEARCH ADVANCE ON APPLICATION OF CLUSTERING ALGORITHM IN NAME DISAMBIGUATION

JUNTAO CHEN, JINMEI ZHAN, JIEQING XING	18
--	----

WIND SPEED PREDICTION BASED ON WAVELET ANALYSIS AND TIME SERIES METHOD

ZHENG ZHAO, XIAOLIANG WANG, YAGANG ZHANG, HAIZHI GOU, FAN YANG	23
--	----

THE NOVEL ADAPTIVE WEIGHT ALGORITHMS FOR PHASE ARRAY RADAR

ZHITAO YANG.....	28
------------------	----

A NOVEL EXPANDING SAMPLE METHOD FOR SINGLE TRAINING SAMPLE FACE RECOGNITION

JUN-YING ZENG, XIAO-XIAO ZHAO, YI-KUI ZHAI, JUN-YING GAN, ZUO-YONG LIU, CHUAN-BO QIN	33
--	----

MULTI MODALITY RECOGNITION OF HUMAN FACE AND EAR BASED ON DEEP LEARNING

TINGYU FAN, ZHICHUN MU, RUYIN YANG	38
--	----

A LAPPEDED DIRECTIONAL WAVELET TRANSFORM BASED ON B-SPLINES

KENSUKE FUJINOKI, KEITA ASHIZAWA.....	43
---------------------------------------	----

ADVANCED ADBF AND ESTIMATION SCHEME FOR PHASE ARRAY RADAR SYSTEM

QIN SUN	48
---------------	----

A NOVEL MULTI-FOCUS IMAGE-FUSION SCHEME BASED ON NON-UNIFORM RECTANGULAR PARTITION

XIAOYU LIU, KINTAK U	53
----------------------------	----

DIGITAL IMAGE WATERMARKING BASED ON BAYESIAN COMPRESSIVE SENSING

JUN LV, XIUMEI LI.....	59
------------------------	----

3D FACIAL EXPRESSION RECOGNITION USING ORTHOGONAL TENSOR MARGINAL FISHER ANALYSIS ON GEOMETRIC MAPS	
QIAN LI, GAOYUN AN, QIUQI RUAN	65
LOCAL GENERALIZATION ERROR BASED MONOTONIC CLASSIFICATION EXTREME LEARNING MACHINE	
HONG ZHU, ERIC C.C. TSANG, XIZHAO WANG.....	72
A NOVEL IMAGE ZERO-WATERMARKING SCHEME BASED ON NON-UNIFORM RECTANGULAR	
ZHANGLE SHEN, KINTAK U	78
STATIONARY WAVELET AND TWO-DIRECTIONAL 2DPCA FOR PATTERN RECOGNITION OF ELECTROMYOGRAPHIC SIGNAL	
YI JI, HONG-BO XIE	83
MULTI-HASH OK-MEANS FOR LARGE SCALE IMAGE RETRIEVAL PROBLEMS	
XIAOYI LU, XING TIAN, WING W.Y. NG	87
AN IMAGE ENCRYPTION SYSTEM BASED ON 2-DIMENSIONAL QUANTUM RANDOM WALKS	
LINGFENG LI, BO PANG, YUANYAN TANG	93
NOVEL SCHEME TO DECREASE THE INTERFERENCE FOR PHASE ARRAY RADAR	
YUNXIA LIANG	99
A NOVEL APPROACH TO DICTIONARY LEARNING FOR THE BAG-OF-FEATURES MODEL	
SIYING ZHANG, ALEX PO LEUNG	104
RESEARCH ADVANCE OF CLUSTERING ENSEMBLE ALGORITHM	
JINMEI ZHAN, JUNTAO CHEN, JIEQING XING	109
HILBERT TRANSFORM PAIR OF ORTHONORMAL BASES OF CHROMATIC-SCALE WAVELETS	
HIROSHI TODA, ZHONG ZHANG	115
A MODIFIED GRABCUT APPROACH FOR IMAGE SEGMENTATION BASED ON LOCAL PRIOR DISTRIBUTION	
QIU GUAN, MIN HUA, HAI-GEN HU	122
A STUDY OF A NEW WAVELET NEURAL NETWORK FOR DEEP LEARNING	
ZHONG ZHANG, YIMING SHI, HIROSHI TODA, TAKUMA AKIDUKI	127
MOBILE ROBOT NAVIGATION BASED ON ADAPTIVE NEURO-FUZZY INFERENCE SYSTEM WITH VIRTUAL TARGET STRATEGY	
JUNYI LU, KINTAK U	132
RESEARCH ON MULTI-SCALE TRACKING TECHNOLOGY OF INSULATOR	
YAN BIN, LIU YONGJIAO, YE RUN.....	137
COMPONENTS SEGMENTATION ALGORITHM FOR SPACE TARGET ISAR IMAGE BASED ON CLEAN	
ZHI-HUI WANG, ZHUANG WANG, LI-BING JIANG.....	143
IMPROVING THE LENET WITH BATCH NORMALIZATION AND ONLINE HARD EXAMPLE MINING FOR DIGITS RECOGNITION	
YILIANG XIE, HONGYUAN JIN, ERIC C.C. TSANG	149
AUDIO POST-PROCESSING DETECTION AND IDENTIFICATION BASED ON AUDIO FEATURES	
YUNZHEN ZHAN, XIAOCHEN YUAN	154

SEGMENTATION OF CORPUS SPONGIOSUM FROM MALE ANTERIOR URETHRA ULTRASOUND IMAGES	
HAIHAO FAN, LEI CHEN, CHAO FENG, ZHE LI, YUMING ZHAO, SU ZHANG	159
NOVEL MONOPULSE TECHNIQUE USING SIDELobe CANCELLATION SCHEME	
YUNXIA LIANG	166
HIERARCHICAL RANDOM FOREST FOR SENIOR ACTION RECOGNITION IN VIDEOS	
RUNLIN ZHAO, YANG ZHAO, RUOYU DENG, FENHUA LI	171
CORRELATION FORMULATION USING RELATIONSHIP BETWEEN CONVOLUTION AND CORRELATION IN LINEAR CANONICAL TRANSFORM DOMAIN	
MAWARDI BAHRI, AMIR KAMAL AMIR, RYUICHI ASHINO.....	177
VISUAL WORDS SELECTION FOR HUMAN ACTION RECOGNITION USING RBFNN VIA THE MINIMIZATION OF L-GEM	
WING W.Y. NG, JINDE LI, JIANJUN ZHANG, QIUXIA WU, JIAYONG LI	183
ENERGY INTERNET IN SMART CITY REVIEW	
MENGXUAN YAN, XUECONG LI, LOI LEI LAI, FANGYUAN XU	188
IMPROVEMENT OF CROWD FLOW SEGMENTATION USING NEW STREAKFLOW SIMILARITY	
HAIYAN YANG, PING ZHOU, WEI LI, HUA-AN ZHAO	194
THE NOVEL TWO LAYER ADAPTIVE ALGORITHM FOR PHASE ARRAY RADAR SYSTEM	
YUNXIA LIANG	200
PARTICLE DYNAMIC ANALYSIS OF A HORIZONTAL PNEUMATIC CONVEYING BASED ON WAVELET ANALYSIS	
YAN ZHENG, AKIRA RINOSHIKA	205
A CONTOURLET COEFFICIENTS BASED IMAGE QUALITY METRIC	
SHUANG LIANG, GUANXIANG WANG, ZHENGYE ZHOU	211
THE COMPARISON BETWEEN THE DIRECT AND INDIRECT METHOD IN THE HARMONIC TRANSFORMATION MODEL	
LINA YANG, YUAN YAN TANG, XICHUN LI, YAN ZHAO.....	218
EXPERIMENTAL STUDY ON STACKED AUTOENCODER ON INSUFFICIENT TRAINING SAMPLES	
JIN XUE, PATRICK P.K. CHAN, XIAN HU.....	223
IMPROVING ROBUSTNESS OF STACKED AUTO-ENCODER AGAINST EVASION ATTACK BASED ON WEIGHT EVENNESS	
FENGZHI LUO, PATRICK P.K. CHAN, ZHE LIN, ZHIMIN HE	230
HYBRID ADVERSARIAL SAMPLE CRAFTING FOR BLACK-BOX EVASION ATTACK	
JUAN ZHENG, ZHIMIN HE, ZHE LIN	236
ROBUST SUPPORT VECTOR MACHINES AGAINST EVASION ATTACKS BY RANDOM GENERATED MALICIOUS SAMPLES	
ZHIMIN HE, JUNJIAN SU, MANZAN HU, GANGREN WEN, SHILIN XU, FEI ZHANG	243
IMPROVEMENT OF PEARSON SIMILARITY COEFFICIENT BASED ON ITEM FREQUENCY	
FEI ZHANG, WEITAO ZHOU, LILI SUN, XIAOCHUAN LIN, HONGJIE LIU, ZHIMIN HE	248