

2018 International Conference on Network Infrastructure and Digital Content (IC-NIDC 2018)

**Guiyang, China
22-24 August 2018**



**IEEE Catalog Number: CFP1874H-POD
ISBN: 978-1-5386-6068-3**

**Copyright © 2018 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:	CFP1874-POD
ISBN (Print-On-Demand):	978-1-5386-6068-3
ISBN (Online):	978-1-5386-6067-6
ISSN:	2374-0272

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

- Keynote* **Toward Smart and Secure Cyber Physical Systems**
speech-1 *Prof. Haibo He, University of Rhode Island, USA*
- Keynote* **Smart Network Defense through Perpetual Learning**
speech-2 *Prof. Du Zhang, Macau University of Science and Technology, Macau*
- Keynote* **AI and Robotics with Intelligent Manufacturing System Enabling New**
speech-3 **Network-Based Digital Economy**
Prof. Ren C. Luo, National Taiwan University, Taiwan

Session 1: Digital Content and Big Data I (6)

- 001-173 **ANOMALY DETECTION FOR KEY PERFORMANCE INDICATORS THROUGH MACHINE LEARNING** **1**
Jia Shi, Gang He, Xinwen Liu
- 002-132 **TOWARDS A USER AND ROLE-BASED BEHAVIOR ANALYSIS METHOD FOR INSIDER THREAT DETECTION** **6**
Qiu Jian Lv, Yan Wang, Leiqi Wang, Dan Wang
- 003-174 **ENTITY AND RELATION EXTRACTION WITH DYNAMIC MEMORY CELLS** **11**
Jiandong Gan, Jingxuan Yang, Dian Jiao, Si Li, Guang Chen
- 004-143 **LEARNING SENTENCES SIMILARITY BY MULTI-HEAD ATTENTION** **16**
Mingyang Wang, Chenliang Li, Jiandong Sun, Weiran Xu, Sheng Gao, Yahao Zhang, Pu Wang, JunLiang Li
- 005-195 **POSITION-AWARE ATTENTION FOR ENHANCING THE MACHINE COMPREHENSION** **20**
Weijie Liu, Jianbo Zhao, Mingzheng Li, Si Li, Jun Guo
- 006-169 **DETECTION OF CHINESE GRAMMATICAL ERRORS WITH CONTEXT REPRESENTATION** **25**
Jianbo Zhao, Mingzheng Li, Weijie Liu, Si Li, Zhiqing Lin

Session 2: Image, video and multidimensional signal processing I (7)

- 007-035 **MULTISCALE DECOMPOSITION BASED HIGH DYNAMIC RANGE TONE MAPPING METHOD USING GUIDED IMAGE FILTER** **30**
Ming Gao, Seungwoo Wee, Jechang Jeong
- 008-012 **MOBILE-PHONE CAMERA BASED VISIBLE LIGHT COMMUNICATION USING NON-LINE-OF-SIGHT (NLOS) LINK** **35**
Zhenshan Zhang, Tiantian Zhang, Ji Zhou, Yueming Lu, Yaojun Qiao
- 009-131 **AN AUTO-ADAPTIVE CNN FOR CROWD COUNTING IN MONITOR IMAGE** **40**
Qiu Chang, Yonggang Qi, Wenli Zhou, Jun Liu

010-081	HEART RATE ESTIMATION FROM FACIAL VIDEOS BASED ON CONVOLUTIONAL NEURAL NETWORK	45
	<i>Wen Yang, Xiaoqi Li, Bin Zhang</i>	
011-153	DIRECTIONAL ELEMENT HOG FOR SKETCH RECOGNITION	50
	<i>Yue Zhong, Honggang Zhang, Jun Guo, Yi-Zhe Song</i>	
012-151	AUTOMATED DETECTION OF LUNG NODULES IN CT IMAGES WITH 3D CONVOLUTIONAL NEURAL NETWORKS	55
	<i>Cheng Dai, Bo Xiao, Yun Chen, Yujiao Du, Yu Liang, Kai Zhao, Liping Yan</i>	
013-014	APPLICATION OF IMPROVED BHATTACHARYYA COEFFICIENT BASED MULTI-OBJECT DETECTION AND TRACKING INTEGRATED STRATEGY	60
	<i>Mingbin Zeng, Zichao Wei, Hu He, Xu Yang</i>	

Session 3: Signal processing for communications and networking (6)

014-108	A PERSONALIZED TAXI MATCHING ALGORITHM FOR RIDESHARING	65
	<i>Lilong Wang, Fang Su, Jian Dong, Jilong Li</i>	
015-124	SEA: A COMBINED MODEL FOR HEAT DEMAND PREDICTION	71
	<i>Jiyang Xie, Jiixin Guo, Zhanyu Ma, Jing-Hao Xue, Qie Sun, Hailong Li, Jun Guo</i>	
016-171	NEARSHORE VESSEL DETECTION BASED ON SCENE-MASK R-CNN IN REMOTE SENSING IMAGE	76
	<i>Yankang Zhang, Yanan You, Rui Wang, Fang Liu, Jun Liu</i>	
017-164	SHIP DETECTION IN FOGGY REMOTE SENSING IMAGE VIA SCENE CLASSIFICATION R-CNN	81
	<i>Rui Wang, Yanan You, Yankang Zhang, Wenli Zhou, Jun Liu</i>	
018-016	THE APPLICATION OF SPARK IN MEDICAL MULTIDIMENSIONAL DATA VISUALIZATION AND STATISTICAL ANALYSIS	86
	<i>Haijing Tang, Yangdong Zhou, Taoyi Wang, Yongcan Shi</i>	
019-212	ADVERSARIAL TRAINING OF DEEP AUTOENCODERS TOWARDS RECOMMENDATION TASKS	91
	<i>Dong-Kyu Chae, Sang-Wook Kim</i>	

Session 4: Broadband Wireless Communications I (7)

020-070	A GROUND BASED SENSOR NETWORK FOR WATER STRESS MEASUREMENT	96
	<i>Sudarshan Badal, Iftekhar Ahmad, Viet Phung, Eric Dines, Daryoush Habibi</i>	
021-042	THE APPLICATION OF LINEAR PREDICTIVE CODING FOR ROIP DATA TRANSMISSION IN THE HFC NETWORK	101
	<i>Chengyu Cui, Sungkwon Park, Joonyoung Jung, Jewon Lee</i>	

022-075	PLANNING APPROACH FOR CROSS-REGIONAL OPTICAL TRANSMISSION NETWORK SUPPORTING WIDE-AREA STABILITY CONTROL SERVICES IN POWER SYSTEM	105
	<i>Bin Chen, Wenjing Li, Peng Yu, Qiang Zhang, Dan Jin, Geng Zhang, Yang Wang</i>	
023-172	IMPORTANCE-DRIVEN DOWNLINK RESOURCE SCHEDULING FOR VIDEO TRANSMISSION OVER LTE	110
	<i>Donghai Li, Xiaoyu Liu, Yumei Wang, Yu Liu</i>	
024-091	A NOVEL DOWNLINK SCHEDULER BASED ON Q-LEARNING FOR VIDEO TRAFFIC IN LTE NETWORKS	115
	<i>Xinyu Chen, Yu Liu, Yumei Wang</i>	
025-126	IMPLEMENTING ITS APPLICATIONS BY LTE-V2X EQUIPMENT - CHALLENGES AND OPPORTUNITIES	120
	<i>Zhihan Yao, Zhilin Yang, Tianhao Wu, Liyang Chen, Konglin Zhu, Lin Zhang, Sixi Su</i>	
026-191	ADAPTIVE PARAMETERS ESTIMATION FOR LIGHT FIELD RECONSTRUCTION USING SHEARLET TRANSFORM	125
	<i>Jingming Shan, Xinjue Hu, Yu Liu, Lin Zhang</i>	
Session 5: Medical image processing (7)		
027-061	SVM-BASED BONE TUMOR DETECTION BY USING THE TEXTURE FEATURES OF X-RAY IMAGE	130
	<i>Chuli Xia, Kai Niu, Zhiqiang He, Shun Tang, Jichun Wang, Yidian Zhang, Zhiqing Zhao, Wei Guo</i>	
028-130	A CHANNEL-LEVEL PRUNING STRATEGY FOR CONVOLUTIONAL LAYERS IN CNNs	135
	<i>Fangzhou Song, Ying Wang, Yao Guo, Chuang Zhu, Jun Liu, Mulan Jin</i>	
029-125	QUANTITATIVE COMPARISONS OF LINKED COLOR IMAGING AND WHITE-LIGHT COLONOSCOPY FOR COLORECTAL POLYPANALYSIS	140
	<i>Xinran Wei, Jiyang Xie, Wenrui He, Min Min, Zhanyu Ma, Jun Guo</i>	
030-144	AUTOMATIC ANALYSIS OF LESION IN CARDIOVASCULAR IMAGE USING FULLY CONVOLUTIONAL NEURAL NETWORKS	145
	<i>Weijia Tang, Chuang Zhang, Ming Wu</i>	
031-199	REAL-TIME LESION DETECTION OF CARDIAC CORONARY ARTERY USING DEEP NEURAL NETWORKS	150
	<i>Tianming Du, Xuqing Liu, Honggang Zhang, Bo Xu</i>	
032-085	CATARACT DETECTION AND GRADING BASED ON COMBINATION OF DEEP CONVOLUTIONAL NEURAL NETWORK AND RANDOM FORESTS	155
	<i>Jing Ran, Kai Niu, Zhiqiang He, Hongyan Zhang, Hongxin Song</i>	

033-084 **EVALUATION OF ORTHOKERATOLOGY LENSES FITTING USING COMBINATION OF K-MEANS AND LEAST SQUARES ALGORITHM** 160
Ke Li, Zhiqiang He, Kai Niu, Fei Luo, Hongxin Song

Session 6: Image, video and multidimensional signal processing II (7)

034-090 **MULTI-TASK ADVERSARIAL NETWORK BOTTLENECK FEATURES FOR NOISE-ROBUST SPEAKER VERIFICATION** 165
Hong Yu, Tianrui Hu, Zhanyu Ma, Zheng-Hua Tan, Jun Guo

035-037 **SOUND EVENT DETECTION BASED ON BEAMFORMED CONVOLUTIONAL NEURAL NETWORK USING MULTI-MICROPHONES** 170
Jaehun Kim, Kyoungin Noh, Jaeha Kim, Joon-Hyuk Chang

036-138 **MELODY EXTRACTION BASED ON DEEP HARMONIC NEURAL NETWORK** 174
Yuzhi Huang, Liu Gang

037-038 **EVENT DETECTION BASED ON DEEP LEARNING USING AUDIO AND RADAR SENSORS** 179
Taeho Kim, Kyoungjin Noh, Jaeha Kim, Jeongnam Youn, Joon-Hyuk Chang

038-048 **A LIGHTWEIGHT EDGE COMPUTING PLATFORM INTEGRATING VIDEO SERVICES** 183
Jian Wang, Yihong Hu, Hongxing Li, Guochu Shou

039-170 **ANOMALY DETECTION IN HEALTH DATA BASED ON DEEP LEARNING** 188
Ning Han, Sheng Gao, Jin Li, Xinming Zhang, Jun Guo

040-137 **FEATURE FUSION OF SPEECH EMOTION RECOGNITION BASED ON DEEP LEARNING** 193
Gang Liu, Wei He, Bicheng Jin

Session 7: Image, video and multidimensional signal processing III (7)

041-149 **DESTINATION PREDICTION FOR SHARING-BIKES' TRIPS** 198
Yujiao Du, Bo Xiao, Wenchao Xu, Desheng Cui, Qianfang Xu, Liping Yan

042-158 **ENSEMBLE FEATURE SELECTION METHOD BASED ON ADAPTIVE WEIGHTS** 203
Yanbiao Li, Zeyuan Zhao, Ke Yu, Xiaofei Wu

043-076 **CONSTRUCTION OF TRADITIONAL CHINESE MEDICINE KNOWLEDGE GRAPH USING DATA MINING AND EXPERT KNOWLEDGE** 209
Boya Cheng, Yuan Zhang, Dejun Cai, Wan Qiu, Dongxin Shi

044-100 **MOVEMENT MEASUREMENT OF ATTENTION-DEFICIT/HYPERACTIVITY DISORDER(ADHD) PATIENTS USING IR-UWB RADAR SENSOR** 214
Won Hyuk Lee, Sung Ho Cho, Hyun Kyung Park, Seok Hyun Cho, Young Hyo Lim, Kang Ryul Kim

045-015 **EXPLORATION OF META ANALYSIS AUTOMATION** 218
Xu Yang, Chenxia Wu, Haijing Tang, Xiaonan Dongye, Guo Chen, Yiru Wang

046-155 **TRAFFIC TIME PREDICTION BASED ON IMPUTATION ALGORITHMS FOR MISSING VALUES** 223

Cong Guo, Xinyu Gu, Qianqian Li, Jiabin Qu, Lin Zhang

047-111 **STORY UNDERSTANDING WITH EXTERNAL KNOWLEDGE BASED ATTENTION** 229

Quan Yuan, Jianzhuo Tong, Sheng Gao, Si Li

Session 8: Sensing, Smart Spaces, and Internet of Things (IoT) (6)

048-123 **A MILLIMETER WAVE BEAM TRACKING IN VEHICULAR SCENARIO VIA PARTICLE FILTER** 234

Jeongwan Kang, Igbafe Orikumhi, Young-Mi Park, Sunwoo Kim

049-159 **RESOURCE ALLOCATION FOR NOMA-BASED V2V SYSTEM** 239

Yiyi Xu, Xinyu Gu

050-154 **ENHANCED SA DECODING ALGORITHM IN LTE-V2V COMMUNICATIONS** 244

Yi Ding, Xinyu Gu

051-005 **RESEARCH ON INTELLIGENCE SERVICE MODEL FOR INTERNET OF THINGS** 250

Qingyuan Tang, Yongan Guo

052-102 **SEAT BELT REMINDER SYSTEM IN VEHICLE USING IR-UWB RADAR** 256

Jae Ho Huh, Sung Ho Cho

053-069 **IOT SECURITY MODEL AND PERFORMANCE EVALUATION: A BLOCKCHAIN APPROACH** 260

Ziyan Wang, Xinghua Dong, Yi Li, Li Fang, Ping Chen

Session 9: Digital Content and Big Data II (7)

054-200 **VARIABLE-PARAMETER ARCTANGENT-COST-FUNCTION BASED NLMS ALGORITHM ROBUST AGAINST IMPULSIVE INTERFERENCES** 265

Jeong-Hwan Choi, Jin Kim, Sang Won Nam

055-004 **AN EFFECTIVE ARTIFICIAL NEURAL NETWORK EQUALIZER WITH S-SHAPE ACTIVATION FUNCTION FOR HIGH-SPEED 16-QAM TRANSMISSIONS USING LOW-COST DIRECTLY MODULATED LASER** 269

Siming Liu, Peng-Chun Peng, Chin-Wei Hsu, Shuo Chen, Huiping Tian, Gee-Kung Chang

056-103 **AN END-TO-END MODEL BASED ON CNN-LSTM FOR INDUSTRIAL FAULT DIAGNOSIS AND PROGNOSIS** 274

Yue Gao, Ping Gong, Lanxin Li

057-019 **TOWARDS A NOVEL APPROACH TO HIGH-ACCURACY ENTERPRISE SEARCH** 279

Shuman Guo, Lei Wang, Zhigang Wang, Nanfei Shu, Hao Zhang, Kewu Sun

058-003 RESEARCH AND APPLICATION ON THE METHOD OF INTELLIGENT UNDERSTANDING AND MATCHING OF POWER EQUIPMENT INFORMATION 284
Zhanfeng Cao, Hanghai Hu, Xiao Cheng, Xiao Wu, Ruimin Liu

059-026 A COST-EFFECTIVE LOOKUP SCHEME COMBINING HASH TABLE WITH TCAM FOR OPENFLOW 289
Chunqiang Li, Yongqiang Dong, Guoxin Wu, Yiqing Xu

060-192 UNEQUAL ERROR PROTECTION FOR 360 VR VIDEO BASED ON EXPANDING WINDOW FOUNTAIN CODES 295
Yang Lv, Donghai Li, Yumei Wang, Yu Liu

Session 10: Broadband Wireless Communications II (6)

061-052 RESOURCE ALLOCATION IN SOFTWARE DEFINED HYBRID SATELLITE-TERRESTRIAL COMMUNICATION NETWORKS TOWARD 5G 300
Liu Yang, Xiaosong Yu, He Zhu, Wenzheng Chen, Yuan Cao, Yongli Zhao, Han Li, Jie Zhang, Longteng Yi

062-033 GENERATIVE MODEL WITH KERNEL DENSITY ESTIMATION 304
Jing Tan, Sixing Yin, Shuo Zhao

063-023 PRE-CUT KNN ALGORITHM BASED ON THRESHOLD OF DISTANCE 309
Chen Lu, Dong Liang, Shan Wang, Lili Zeng, Yilin Zhao

064-066 A LOAD BALANCE SELF-HEALING ALGORITHM BASED ON AHP FOR BACKHAUL TRANSMISSION IN UDNS 315
Zhongming Gao, Xi Li, Hong Ji, Heli Zhang, Victor C.M. Leung

065-122 COMPARISON OF SLEEP PARAMETER WITH ACTIGRAPHY AND IR-UWB SENSOR BASED ON POLYSOMNOGRAPHY 320
Sun Kang, Young-Hyo Lim, Yonggu Lee, Jihye Choi, Hyun-Kyung Park, Sung Ho Cho, Seok Hyun Cho

066-006 ANALYSIS OF DOWNLINK CO-EXISTENCE IN 5G NEW RADIO HOMOGENEOUS NETWORKS 324
Lei Cao, Xuanguang Hu, Hanwei Li, Meng Zhang, Xin Zhang

Session 11: Image, video and multidimensional signal processing IV (7)

067-092 PEDESTRIAN DETECTION BASED ON MULTI-SCALE FUSION FEATURES 329
Hao Jiang, Chuang Zhang, Ming Wu

068-113 IMAGE CAPTION VIA VISUAL ATTENTION SWITCH ON DENSENET 334
Yanlong Hao, Jiyang Xie, Zhiqing Lin

069-146 RESEARCH ON REAL-TIME VIDEO ACTION CLASSIFICATION BASED ON THREE-DIMENSIONAL CONVOLUTIONAL NEURAL NETWORK 339
Mingli Yu, Chuang Zhang, Ming Wu

070-074 **A PROPOSED LICENSE PLATE CLASSIFICATION METHOD BASED ON CONVOLUTIONAL NEURAL NETWORK** 344
Kaili Ni, Meixia Fu, Zhongjie Huang, Songlin Sun

071-096 **ADAPTIVE FACE BLENDING FOR FACE REPLACEMENT SYSTEM** 348
Xingjie Zhang, Jong-Il Park

072-053 **VISION BASED APPROACH IN FINDING MULTI-TYPE PARKING STALL ENTRANCE** 352
Changmu Seo, Joongsik Kim, Yunhee Lee, Whoiyul Kim

073-139 **AF-SOFTMAX FOR FACE RECOGNITION** 358
Jian Li, Weilong Chai, Jiani Hu, Weihong Deng

Session 12: Broadband Wireless Communications III (7)

074-057 **STATISTICAL APPROACH FOR BLIND RECOGNITION OF NARROW-SENSE BCH CODES** 363
Jiho Kim, Soonhee Kwon, Dong-Joon Shin

075-119 **RESEARCH OF RANDOM ACCESS PROCEDURE ON MACHINE TYPE COMMUNICATION** 367
Zhen Liao, Xiaodong Ji, Xiangqian Sun, Huilin Zhao

076-106 **TL-FCMA : INDOOR LOCALIZATION BY INTEGRATING FUZZY CLUSTERING WITH TRANSFER LEARNING** 372
Xiaokai Zhang, Yonggui Mei, Hao Jin, Dong Liang

077-197 **AN IMPROVED INSTANTLY DECODABLE NETWORK CODING ALGORITHM BASED ON ENCODED PACKETS** 378
Tengfei Cheng, Weixia Zou

078-055 **ACCESS POINT DECODING CODED MAPREDUCE FOR TREE FOG NETWORK** 384
Xin Pang, Zhisong Bie, Xuehong Lin

079-040 **COMPRESSIVE DETECTION OF RANDOM SIGNALS FROM SPARSELY CORRUPTED MEASUREMENTS** 389
Yun Tian, Wenbo Xu, Jing Qin, Xiaofan Zhao

080-109 **PERFORMANCE OF CHANNEL ADAPTIVE RANDOM ACCESS IN AN LTE SYSTEM** 394
Jihoon Lee, Hichan Moon

Session 13: Digital Content and Big Data III (7)

081-010 **END-TO-END DEEP MEMORY NETWORK FOR VISUAL-TEXTUAL SENTIMENT ANALYSIS** 399
Hang Miao, Ruifang Liu, Sheng Gao, Xin Zhou, Xiaoxin He

082-193 **MASKING POLARITY WORDS IN CNN** 404
Hengru Xu, Shen Li, Dai Shi, Si Li, Sheng Gao

083-150	MULTI-LABEL TEXT CLASSIFICATION WITH DEEP NEURAL NETWORKS	409
	<i>Yun Chen, Bo Xiao, Zhiqing Lin, Cheng Dai, Zuochao Li, Liping Yan</i>	
084-112	AN UNSUPERVISED FEATURE SELECTION METHOD BASED ON IMPROVED RELIEFF AND BISECTING K-MEANS	414
	<i>Junyuan Yang, Xiaoxiang Wang, Dongyu Wang</i>	
085-140	VISUAL RELATIONSHIP DETECTION BASED ON LOCAL FEATURE AND CONTEXT FEATURE	420
	<i>Yuping Han, Yajing Xu, Shishuo Liu, Sheng Gao , Si Li</i>	
086-087	RETAIL TIME SERIES PREDICTION BASED ON EMD AND DEEP LEARNING	425
	<i>Shucheng Mou, Yang Ji, Chujie Tian</i>	
087-105	RESEARCH ON FEATURE ENGINEERING FOR TIME SERIES DATA MINING	431
	<i>Lei Li, Yihang Ou, Yabin Wu, Qi Li, Daoxin Chen</i>	
Session 14: Digital Content and Big Data IV (7)		
088-198	EXPLORING HADOOP AND SPARK CLUSTERS FOR IPV6 TRAFFIC RESEARCH	436
	<i>Dazhong He, Weishao Cheng, Xiuying Wang</i>	
089-007	FEATURE MINING FOR INTERNET VIDEO TRAFFIC CLASSIFICATION	441
	<i>Lingyun Yang, Yuning Dong, Zheng Wu, Pingping Tang, Youhong Feng</i>	
090-020	ON EXTRACTING THE SPATIAL-TEMPORAL FEATURES OF NETWORK TRAFFIC PATTERNS: A TENSOR BASED DEEP LEARNING MODEL	445
	<i>Fengxiao Tang, Bomin Mao, Zubair Md. Fadlullah, Jiajia Liu, Nei Kato</i>	
091-128	NETWORK TRAFFIC ANALYSIS AND PREDICTION OF HOTSPOT IN CELLULAR NETWORK	452
	<i>Aoxiang Cao, Yuanyuan Qiao, Kewu Sun, Hao Zhang, Jie Yang</i>	
092-127	FIND YOUR ONLINE SOCIAL FRIENDS FROM MOBILE INTERNET TRAFFIC	457
	<i>Yi Zhang, Yuanyuan Qiao, Yanting Zhang, Nanfei Shu, Yizhe Song, Jie Yang</i>	
093-129	AN IMPROVED METHOD FOR ORDERLY FUNNEL ANALYSIS OF MASSIVE USER BEHAVIOR DATA	462
	<i>Yipeng Jiang, Fang Liu, Qing Yan, Zhengxiang Ke</i>	
094-110	STREAM PROCESSING ENGINES FOR SMART HEALTHCARE SYSTEMS	467
	<i>Rhaed Khiati, Muhammed Hanif, Choonhwa Lee</i>	
	Author index.	472