

48th International Conference on Computers & Industrial Engineering 2018 (CIE48)

Auckland, New Zealand
2-5 December 2018

Volume 1 of 3

Editors:

Xun Xu
Mohamed I. Dessouky
Ray Y. Zhong

ISBN: 978-1-5108-7739-9

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2018) by Computers & Industrial Engineering
All rights reserved.

Printed by Curran Associates, Inc. (2019)

For permission requests, please contact Computers & Industrial Engineering
at the address below.

Computers & Industrial Engineering
c/o Mohamed Dessouky
3715 McClintock Avenue, GER 240
Los Angeles CA 90089-0193

Phone: (949) 425-1686

Fax: (949) 425-1696

dessouky@usc.edu

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
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

VOLUME 1

TWO STAGE STOCHASTIC OPTIMIZATION MODEL FOR MULTIPLE ALLOCATION HUB COVERING PROBLEM	1
<i>Nazmi Sener, Orhan Feyzioğlu</i>	
MULTICOMMODITY SERVICE NETWORK DESIGN PROBLEM WITH HETEROGENEOUS FREIGHT FUNCTIONS AND STOCHASTIC DEMAND	9
<i>Shigang Li, Qian Zhou, Xinglu Liu, Benhe Gao</i>	
A COGNITIVE STUDY ON DRIVING MECHANISM OF ENTREPRENEURIAL TEAM DECISION-MAKING	25
<i>Shulin Lan, Chen Yang</i>	
APPLYING SIMULATED ANNEALING ALGORITHM FOR PARALLEL MACHINE TARDINESS PROBLEM SUBJECT TO JOB SPLITTING	37
<i>Amir Arsalan Rajaei, Atefeh Amindoust, Milad Asadpour</i>	
A TASK-ORIENTED CYBER-PHYSICAL SYSTEM IN MANUFACTURING	62
<i>Wei Ji, Yujiang Li, Lihui Wang</i>	
EVALUATIONS OF RETAIL PRACTICES EFFICIENCY USING LEAN MANUFACTURING PRINCIPLE	76
<i>Abdelhakim Abdelhadi</i>	
IOT-ENABLED SMART AGV VISIBILITY FOR INDUSTRY 4.0	85
<i>Ray Y Zhong, Hang Xu, Jacobus Theunissen</i>	
DEVELOPMENT OF A SMART PATENT RECOMMENDATION SYSTEM WITH NATURAL LANGUAGE PROCESSING CAPABILITIES	96
<i>Amy J C Trappey, Charles Trappey, H I Hsieh</i>	
USING NON-SUPERVISED MACHINE LEARNING TO GENERATE A KNOWLEDGE ONTOLOGY FOR PATENT ANALYTICS	106
<i>Amy J C Trappey, Charles Trappey, C H Zou</i>	
DESIGN OF MAINTENANCE SERVICE CONTRACT UPON THE EXPIRATION OF AVAILABILITY-BASED WARRANTY	115
<i>Chun Su, Longfei Cheng</i>	
A FREQUENCY ESTIMATION METHOD BASED ON IMPROVED ADAPTIVE NOTCH FILTER ALGORITHM FOR ACTIVE VIBRATION CONTROL	124
<i>Shunan Luo, Feng Zhang, Ray Y Zhong, Han Wang, Haiyan Li</i>	
COMBINING RANDOM FOREST WITH SUPPORT VECTOR REGRESSION TO CONDUCT DIAGNOSTIC AND PREDICTIVE ANALYTICS FOR SEMICONDUCTOR COMPANIES	134
<i>Chih-Hsuan Wang</i>	
A SIX-STEP APPROACH FOR DESIGNING A COORDINATED PHARMACEUTICAL SUPPLY NETWORK UNDER DEMAND UNCERTAINTY AND DETERIORATION OF DRUGS	145
<i>Amirhossein Mostofi, Jim Sheffield, Vipul Jain</i>	
IOT-ENABLED PERSONALISATION FOR SMART PRODUCTS AND SERVICES UNDER INDUSTRY 4.0 ENABLED FINAL	156
<i>Shohin Aheleroff, Ray Y Zhong</i>	
FROM MONOLITH TO MICROSERVICES: A CONTAINER-BASED EN 61131-3 ARCHITECTURE	176
<i>Timur Tasci, Moritz Walker, Oliver Riedel</i>	
AXIS-IN-THE-LOOP SIMULATION: A CONCEPT TO TRANSFER VERIFICATION AND VALIDATION OF DISTRIBUTED INTERPOLATION ALGORITHMS FROM SIMULATION TO INTERACTION WITH COMMERCIAL MOTION CONTROL HARDWARE	187
<i>Caren Dripke, Sonja Laicher, Alexander Verl</i>	
EVALUATING THE STRATEGIES OF SUSTAINABLE DEVELOPMENT IN ELECTRICAL WIRE AND CABLE INDUSTRY -USING THE FUZZY MADM METHODS	196
<i>Jung-Fa Tsai, Ming-Tsang Lu, Shih-Ping Shen</i>	
BATCH-SEQUENCING WITH IMPROVED ANT COLONY ALGORITHM FOR SYNCHRONOUS FLOW SHOP UNDER SUPPLY OF COMPONENTS	207
<i>Qiunan Meng, Yingying Sun, Xun Xu</i>	
BLOCKCHAINS IN OPERATIONS AND SUPPLY CHAINS – A REVIEW AND REFERENCE IMPLEMENTATION	219
<i>Petri Helo, Yuqiuge Hao</i>	
A GLOBAL NETWORK DEA MALMQUIST INDEX	231
<i>Sebastián Lozano</i>	
A DYNAMIC HYBRID MODELLING APPROACH FOR GLOBAL FACILITY LOCATION	245
<i>Hafiz Muhammad Khurram Ali, Khalid Akhtar, Sami Farooq, Mirza Jahanzaib</i>	
RELIABILITY ANALYSIS OF UAV TWO-LEVEL MAINTENANCE PROCESS BASED ON GO METHOD	257
<i>Chunting Liu, Ming Bai, Yue Jia</i>	
A HYBRID METHODOLOGY FOR RENEWABLE ENERGY SUPPLY CHAIN MANAGEMENT IN VIETNAM	271
<i>Duy Nguyen Duc, Narameth Nananukul</i>	
ANALYSIS OF ACCIDENTS INVOLVING MOBILE MACHINERY	285
<i>Veronique St-Onge, Francois Gauthier</i>	

DECISION ON REMANUFACTURING MODEL CONSIDERING PRODUCT DIS-ASSEMBLY AND RECYCLING QUALITY	298
<i>Juhong Gao, Zhen Huo, Xiaoyu Liu</i>	
AN OPTIMIZATION MODEL FOR PICKUP AND DELIVERY OF DONATED BLOOD UNITS	311
<i>Nazanin Nader, S Ayca Erdogan</i>	
PRODUCT SERVICE SYSTEMS FOR SOCIAL MANUFACTURING - A NEW SERVICE SYSTEM WITH MULTI-PROVIDERS	324
<i>Wei Guo, Pingyu Jiang</i>	
MULTI-SOURCE HETEROGENEOUS DATA COLLECTION AND FUSION FOR MANUFACTURING WORKSHOP BASED ON COMPLEX EVENT PROCESSING	334
<i>Yahui Wang, Lianyu Zheng, Yu Hu, Wei Fan</i>	
AN IMPROVED MIP MODEL FOR FACILITY LAYOUT PROBLEM WITH SELECTION OF MATERIAL HANDLING TECHNIQUES	346
<i>Meng You, Yiyong Xiao, Xiaorong Zuo, Chuang Zhu</i>	
A MINIMUM WEIGHT DESIGN OPTIMIZATION OF LARGE STEEL STRUCTURES USING THE BIG BANG – BIG CRUNCH ALGORITHM	354
<i>Pavel Tabakov</i>	
RESEARCH ON SIMULATION OPTIMIZATION OF CROP STRAW COLLECTION, STORAGE AND TRANSPORTATION SYSTEM BASED ON ARENA	365
<i>Yabing Lv, Guangyin Xu, Xiaoya Huang, Jin Li, Chun Wang</i>	
A NOVEL ANT COLONY OPTIMIZATION BASED APPROACH FOR FLEXIBLE JOB-SHOP SCHEDULING PROBLEM WITH OPERATION AND PROCESSING FLEXIBILITY	374
<i>Xuwen Huang, Mingxi Huang, Sardar Islam</i>	
IMPLEMENTATION OF BUSINESS PROCESS REENGINEERING FOR OPERATIONS IN TEXTILE DYEING SCHEDULING	386
<i>Chien Chun Ku, Chen Fu Chien</i>	
DESIGN OF AUTOMATIC MAIZE SEEDLING TRANSPLANTER WITH NEEDLE TYPE MANIPULATOR	395
<i>Chao He, Lifang Cao, Chuangchuang Zhang, Cong Jin, Cunxiang Liu</i>	
METHODS FOR SUPPORTING THE PROSPECTION OF OPPORTUNITIES AND THE FEASIBILITY ANALYSIS OF THE REUSE OF WASTE — OPPORTUNITIES AND TRENDS A LITERATURE REVIEW	406
<i>Jairo Carvalho, Gustavo Bastchen, Milton Borsato</i>	
A RELIABILITY EVALUATION METHOD OF UAV AVIONICS SYSTEM BASED ON A BIVARIATE WIENER PROCESS	419
<i>Zeyu Jiao, Guozhu Jia, Yingjie Cai</i>	
A NEW SUPPORT STRATEGY FOR REDUCING WASTE IN ADDITIVE MANUFACTURING	428
<i>Jingchao Jiang, Xun Xu, Jonathan Stringer</i>	
SMART CONTRACT-ENABLED MULTI-OBJECT REGULATION BLOCKCHAIN IN PHARMACEUTICAL MANUFACTURING SUPPLY CHAIN	435
<i>Xinlai Liu, Yijiang Guan, Bin Shen, Zhi Li</i>	
SMART AND SUSTAINABLE SUPPLY CHAIN MANAGEMENT: A PROPOSAL TO USE RFID TO IMPROVE ELECTRONIC WASTE MANAGEMENT	447
<i>Mehran Ullah, Biswajit Sarkar</i>	
SUPERVISED LEARNING IN ESTIMATION OF DISTRIBUTION ALGORITHMS	462
<i>Shih-Hsin Chen, Yi-Hui Chen, Yu-Cheng Kuo</i>	
PERFORMANCE MEASURE SELECTION PROBLEM WITH BOTH ORIENTATIONS OF ENVELOPMENT FORMS IN DEA	472
<i>Esmail Keshavarz, Mehdi Toloo</i>	
A SIMULATED ANNEALING ALGORITHM FOR INTEGRATED DECISIONS ON SPARE PART INVENTORIES AND CROSS-TRAINING POLICIES IN REPAIRABLE INVENTORY SYSTEMS	480
<i>Fuat Kosanoglu, Hasan Huseyin Turan, Mahir Atmis</i>	
A MIGRATING BIRD ALGORITHM FOR TWO-STAGE ASSEMBLY FLOW SHOP PROBLEM WITH BOTTLENECK	494
<i>Qiunan Meng, Yingying Sun, Xun Xu</i>	
IMPROVEMENT OF K-MODES CLUSTERING ALGORITHM BASED ON ILP	506
<i>Xinglong Yuan, Wenbing Chang, Yiyong Xiao, Shenghan Zhou</i>	
DYNAMIC SEMI-MIXED MODE RUNWAY CONFIGURAITON PLANNING AND RUNWAY SCHEDULING	514
<i>K K H Ng, C K M Lee, Felix T S Chan, S Z Zhang</i>	
SCHEDULING OPTIMIZATION MODEL CONSIDERING PRIORITY IN CLOUD MANUFACTURING	524
<i>Wei He, Guozhu Jia, Wenyong Cao, Hengshan Zong</i>	
AN GEP-BASED DISPATCHING RULES FOR THE ENERGY REDUCTION IN JOBSHOP	536
<i>Liping Zhang, Qiuhua Tang, Kui Wang, Fang Wang</i>	
SURFACE ROUGHNESS AND SURFACE RESIDUAL STRESS OF HIGH MANGANESE STEEL AFTER DIFFERENT SHOT PEENING PROCESSES	545
<i>Hongtang Chen, Shouren Wang, Sufen Lu, Yang Qiao, Xiangyu Wang, Ning Fan, Peiquan Guo</i>	
A FUZZY-BASED CLUSTERING MODEL FOR MRI IMAGE	550
<i>Ying Shen, Weihua Zhu</i>	
REAL-TIME MONITORING OF WORKSHOP STATUS BASED ON INTERNET OF THINGS	556
<i>Pengcheng Fang, Yuchen Jiang, Ray Y Zhong</i>	

A HYBRID NSGA-II FOR RESPONSE-SURFACE-BASED MULTIPLE QUALITY CHARACTERISTIC OPTIMIZATION CONSIDERING MODEL UNCERTAINTY	566
<i>Abhinav Kumar Sharma, Indrajit Mukherjee</i>	
A PRODUCT PLATFORM ARCHITECTURE FOR CLOUD MANUFACTURING	580
<i>Wei Wei, Pengfei Liang</i>	
APPLICATION OF DECISION-MAKING TECHNIQUES IN MARKETING TECHNOLOGY CAPABILITY GAP ASSESSMENT OF IRANIAN AIRLINES	592
<i>Sadegh Abedi, Nazanin Naderi Doust, Amin Heidarkhanzadehkhameh</i>	
A MODULAR AND INNOVATIVE CONCEPT DESIGN PROCESS IN DECISION MAKING FOR A NEW BIKE DEVELOPMENT	600
<i>Chung-Chuan Wang, Ching-Hu Yang, Chung-Shing Wang</i>	
A REVIEW OF METHODS RELATED TO ASSESSING MENTAL WORKLOAD IN NUCLEAR POWER PLANTS	611
<i>Cong Chi Tran, Shengyuan Yan, Yingying Wei</i>	
DESIGN AND DEVELOPMENT OF TIAN-HE RENDER CLOUD PLATFORM CONSIDERING THE BACKGROUND OF INDUSTRIAL INTERNET	620
<i>Yuchen Jiang, Xiaolei Pang, Changsong Li</i>	
AN FPGA IMPLEMENTED DATA ACQUISITION NODE CARD FOR HETEROGENEOUS COMMUNICATION APPROACHES TOWARDS SMART MANUFACTURING	628
<i>Yue Tang, Xiaofu Zou, Ang Liu, Fei Tao</i>	
OPPORTUNISTIC GROUP MAINTENANCE POLICY FOR MULTI-MACHINE SYSTEM WITH MULTI-COMPONENTS	640
<i>Aseem K Mishra, Divya Shrivastava</i>	
RESEARCH ON FAULT FEATURE EXTRACTION METHOD BASED ON TEXT MINING	656
<i>Zhenzhong Xu, Wenbing Chang, Shenghan Zhou, Yiyong Xiao, Fajie Wei</i>	
A HYBRID CROWDSENSING APPROACH WITH CLOUD-EDGE COMPUTING FRAMEWORK FOR DESIGN INNOVATION OF SMART PRODUCT-SERVICE SYSTEMS	662
<i>Pai Zheng, Chun-Hsien Chen</i>	
IMPROVEMENT AND SIMULATION OF ARTIFICIAL BEE COLONY ALGORITHM	676
<i>Guohui Wang, Jinxiang Pian, Xifeng Guo, Wenzhuo Cong</i>	
INDUSTRY 4.0 ENABLED LEAN MANUFACTURING	685
<i>Laura Xiao Xia Xu, Susiwati Ta</i>	
PARTICLE SWARM OPTIMIZATION FOR ARTIFICIAL NEURAL NETWORK HYBRID TRAINING APPLIED TO SOLAR ENERGY FACILITY CLASSIFICATION IN ABANDONED AREAS	695
<i>David Gabriel de Barros Franco, Maria Teresinha Arns Steiner</i>	
AUTOMATED TROPICAL PLANT SPECIES IDENTIFICATION USING DEEP LEARNING AND LEAF SHAPE APPROACH	710
<i>Siow Wee Chang, Jing Wei Tan, Miraemiliana Murat, Hwa Jen Yap</i>	
MULTI-SKILL MANPOWER PLANNING IN AIRCRAFT HANGAR MAINTENANCE SCHEDULING PROBLEM	711
<i>Yichen Qin, Felix T S Chan, S H Chung, T Qu</i>	
CONTEXTUAL INFORMATION-BASED HUMAN FATIGUE PREDICTION FOR INTEGRATED TRAFFIC CONTROL	724
<i>Fan Li, Chun-Hsien Chen, Gangyan Xu, Li Pheng Khoo</i>	
SMART TAG FOR INTERNET OF THINGS	735
<i>Mitsuyoshi Horikawa, Azuma Okamoto, Yoshitoshi Murata</i>	
ANALYSIS OF EXPRESS CROWDSOURCING DELIVERY MODE	746
<i>Xiaoya Huang, Guangyin Xu, Yabing Lv, Zhanwu Wang, Xin Shi</i>	
ANALYSIS OF COOPERATIVE LEARNING BEHAVIOR BASED ON THE DATA OF STUDENTS' MOVEMENT	753
<i>Lin Wang, Zhiqiang Li, Yuning He, Mingcan Zhang, Chenli Deng, Jialiang Sun</i>	
ENGINEERING SIMULATION FOR PRODUCT DESIGN AND DEVELOPMENT IN CYBER-PHYSICAL CONTEXT: A CASE-BASED STUDY	762
<i>Sourabh Mandol, Pranab K Dan, Manoj Mondal</i>	
ON EXTENSION OF A THEORETICAL FRAMEWORK OF VISUAL MANAGEMENT BY DIGITAL INNOVATION	773
<i>Koichi Murata</i>	
USE OF MACHINE LEARNING TECHNIQUES IN BANK CREDIT RISK ANALYSIS	784
<i>Amanda Fenerich, Maria Steiner, Pedro Steiner Neto, Edevar Tochetto, Diego Tsutsumi, Fernanda Assef, Bruno dos Santos</i>	
DATA MINING TECHNIQUES APPLIED TO PUBLIC HEALTH PROBLEMS: A BIBLIOMETRIC ANALYSIS FROM 2003 TO 2017	797
<i>Bruno dos Santos, Maria Teresinha Steiner, Amanda Fenerich, Rafael Henrique Lima</i>	
TRIP PRICING STRATEGY OF ONE-WAY STATION-BASED ELECTRIC CAR SHARING SYSTEM	810
<i>Yuhan Liu, Tao Zeng, Xiaowen Wang, Feng Liang, Qian Wang, Kai Li</i>	
RESEARCH ON THE DYNAMIC MODELING AND INTELLIGENT CONTROL OF FIELD FLEXIBLE HEAVY DUTY ROBOT WITH TEMPERATURE EFFECT	826
<i>Kunming Zheng, Tao Huang, Junfeng Wang, Youmin Hu, Xuexing Guo</i>	

VOLUME 2

A FRAMEWORK FOR DIGITAL TWIN DRIVEN PRODUCT RECYCLE, DISASSEMBLY AND REASSEMBLY	841
<i>Binbin Huang, Yingfeng Zhang, Geng Zhang, Shan Ren</i>	
MACHINE TOOL DIGITAL TWIN: MODELLING METHODOLOGY AND APPLICATIONS	850
<i>Chao Liu, Xiaoyang Hong, Zexuan Zhu, Xun Xu</i>	
A PROPOSAL TO SOLVE THE INVERSE KINEMATICS PROBLEM OF A PARALLEL ROBOT CONFIGURATION WITH NEURAL NETWORKS	861
<i>Juan S Toquica, Patricia Oliveira, José Mauricio S T Motta, DÍbio L Borges</i>	
WIP BALANCING BY AUTONOMOUS CONTROL USING FLEXIBILITY-ORIENTED DECISION-MAKING	876
<i>Felix Zeidler, Daniel Mueller, Michael ten Hompel, Michael Henke</i>	
RESIDUAL STRESS PREDICTION WITH COMBINATION OF BP NEURAL NETWORK AND GENETIC ALGORITHM FOR SHOT PEENED HIGH MANGANESE STEEL	895
<i>Hongtang Chen, Shouren Wang, Sufen Lu, Yang Qiao, Xiangyu Wang, Ning Fan, Peiquan Guo</i>	
IDENTIFYING KEY PLAYERS IN THE PROMOTION OF OFF-SITE CONSTRUCTION IN CHINA	906
<i>Ru Yang, Bingsheng Liu, Guobin Wu, Xing Bi, Shixiang Zhou</i>	
STUDY ON THE EVALUATION OF COMPENSATION POLICIES FOR THE RECONSTRUCTION AND DEMOLITION OF OLD CITIES IN CHINA	917
<i>Ling Li, Chenmei Xu, Xue Zhao, Bingshen Liu</i>	
A SIMULATION-BASED SCHEDULING AND DISPATCHING SYSTEM FOR TFT-LCD ARRAY MANUFACTURING TO REDUCE TOTAL TARDINESS AND CYCLE TIME	928
<i>Tzu-Yen Hong, Chen-Fu Chien</i>	
OPTIMIZATION OF RAILWAY ALIGNMENTS IN COMPLEX MOUNTAINOUS REGIONS	941
<i>Taoran Song, Hao Pu, Wei Li, Hong Zhang, Jie Wang, Jianping Hu, Xianbao Peng</i>	
DYNAMIC AND FLEXIBLE SCHEDULING FOR A FLOW-SHOP	953
<i>Zied Bahroun, Abdulrahim Shamayleh, Rim Zakaria</i>	
CONVOLUTION TWO-DIMENSIONAL REINFORCEMENT LEARNING BASED JOB-SHOP SCHEDULING	968
<i>Zelin Zang, Wanliang Wang, Yan-Wei Zhao, Weikun Li</i>	
OPTIMAL SELECTION OF MOTHER WAVELET FOR GENERATING SKIN MODEL SHAPES	978
<i>Akimasa Otsuka, Komei Muramatsu, Fusaomi Nagata</i>	
PREVENTIVE MAINTENANCE INTERVAL ANALYSIS FOR MULTI-STATE SYSTEMS WITH CONSIDERATION OF SYSTEM RESILIENCE	987
<i>Xufeng Zhang, Ruiying Li</i>	
AN INTERNET OF THINGS-ENABLED BIM PLATFORM FOR MODULAR INTEGRATED CONSTRUCTION	998
<i>Yue Zhai, Ke Chen, Jason X Zhou, Jin Cao, Zhongyuan Lyu, Xin Jin, Xiang Fang, Ray Y Zhong, Geoffrey Q P Shen, Weisheng Lu, George Q Huang</i>	
A PHARMACEUTICAL SUPPLY CHAIN TRACEABILITY SYSTEM BASED ON BLOCKCHAIN AND SMART CONTRACT	1009
<i>Chu Xin Zhuang, Ya Li, Qing Yun Dai, Hong Yu Liu</i>	
MULTIMODAL CONVOLUTIONAL NEURAL NETWORKS USING BLE BEACON	1020
<i>Kazuyuki Hashimoto, Mitsuyoshi Horikawa, Azuma Okamoto</i>	
DEVELOPING AN EMPIRICAL ACCURACY MEASURE FOR INTERMITTENT DEMAND FORECASTING	1033
<i>Prerna Mishra, Xue-Ming Yuan</i>	
A DIGITAL TWIN REFERENCE MODEL FOR SMART MANUFACTURING	1042
<i>Yuqian Lu, Xun Xu</i>	
HOW GROUPS IMPROVE THE PERFORMANCE IN COMPLEX TASK: THE ROLES OF COMMUNICATION EFFECTIVENESS AND SEARCH STRATEGY	1051
<i>Tong Qiao, Min Yang</i>	
AN EFFECT OF CARBON-EMISSION AND POWER SUPPLY TEAMS' INITIATIVES FOR A SUSTAINABLE ELECTRICAL ENERGY SUPPLY CHAIN INVENTORY SYSTEM	1062
<i>Umakanta Mishra, Jei-Zheng Wu</i>	
STUDY THE EFFECT OF HEAT TREATMENT ON THE RELATIVE DENSITY OF SLM BUILT PARTS OF ALSI10MG ALLOY	1075
<i>Arfan Majeed, Yingfeng Zhang, Jingxiang Lv, Tao Peng, Saad Waqar, Zahid Atta</i>	
QUANTIFICATION OF DECISION-MAKING BEHAVIORS OF CHINESE & EUROPEAN CULTURES THROUGH CROSS-CULTURAL DECISION INDEXING (CCDI): AN EAST-WEST STUDY	1085
<i>Muhammad Sami Uz Zaman, Wei Shan, Tigran Badalyan</i>	
IMPACT OF ORDER ON OPERATION AND ENERGY CONSUMPTION IN KIVA ORDER PICKING SYSTEM	1099
<i>Ying Yu, George Q Huang, Chenglin Yu</i>	
THE INDUSTRY 4.0 IN CHINA: A REVIEW OF INDUSTRY AND INFORMATION INTEGRATION	1113
<i>Wenjun Shu, Zhongdong Xiao</i>	
FRACTIONAL NONCONFORMANCE BASED CONFORMITY TESTING	1124
<i>Xin Zhou, Govindaraju Kondaswamy, Geoff Jones</i>	
REACTIVE SCHEDULING OF PROJECTS WITH UNRELIABLE RESOURCES	1125
<i>Ripon Kumar Chakraborty, Alireza Abbasi, Michael J Ryan</i>	

SIMULATION-BASED ANALYSIS OF DISPATCHING POLICIES IN SEMICONDUCTOR BATCH PROCESSORS	1140
<i>Pyung-Hoi Koo, Shie-Gheun Koh, Wonchul Seo</i>	
DEVELOPING A QUALITY INDEX FOR MANAGING THE QUALITY OF RAW MILK IN THE FARM	1141
<i>Atefe Zakeri, Morteza Saberi, Omar Hussain, Saeed Aboutalebi, Elizabeth Chang</i>	
SITUATION-BASED ESTIMATION OF PART TRANSFER TIMES FOR HIERARCHICAL SCHEDULING AND DISPATCHING	1156
<i>Ping Chong Chua, Byung Jun Joo, Tian Xiang Cai, Tay Jin Chua</i>	
AN EMPIRICAL FRAMEWORK TO APPLYING UNIT TESTING IN OPERATIONAL RESEARCH	1167
<i>Melina Vidoni, Laura Cunico, Aldo Vecchiatti</i>	
COMPUTATIONAL TOOL TO FOSTER SYSTEMATIC THINKING AND SUSTAINABLE ENVIRONMENTAL CONSCIENCE IN THE SELECTION OF ENERGY SOURCES SYSTEMS IN AGRIFOOD COMPANIES	1176
<i>Renan Zocca, Tânia M Lima, Pedro D Gaspar, Fernando Charrua-Santos</i>	
AUTOMATED VISION INSPECTION OF RAIL SURFACE CRACKS: A DOUBLE-LAYER DATA-DRIVEN FRAMEWORK	1187
<i>Li Zhuang, Long Wang, Zijun Zhang</i>	
KNOWLEDGE COLLABORATION PROCESS IN VIRTUAL COMMUNITIES OF PRACTICE: BASED ON THE SOCIAL CAPITAL THEORY	1188
<i>Jun Wang, Yani Wang, Tang Yao</i>	
THREE DIMENSIONAL ADAPTIVE DIGITAL MODELLING OF HUMAN SPINE FOR PERSONS WITH SPINAL DISABILITY	1200
<i>Sara Moseh, Pascal Bruniaux, Guillaume Tartare</i>	
AN OPEN-AIR ANALYSIS OF THE AIR POLLUTANTS IN MALAYSIAN ATMOSPHERE AND EXPERTS ENGAGEMENT WORKSHOP ON SMART MOBILITY	1216
<i>Sarfraz Brohi, Thulasyammal Ramiah Pillai, David Asirvatham</i>	
EVALUATING CONTEXT-AWARE SYSTEMS: STATE-OF-THE-ART ANALYSIS AND INTRODUCTION OF A CUSTOMIZED FRAMEWORK	1228
<i>Patrick Rosenberger, Detlef Gerhard</i>	
CAN ENERGY SYSTEM MODELING BENEFIT FROM ARTIFICIAL NEURAL NETWORKS? APPLICATION OF TWO-STAGE METAMODELS TO REDUCE COMPUTATION OF SECURITY OF SUPPLY ASSESSMENTS	1242
<i>Lars Nolting, Thomas Spiegel, Marius Reich, Mario Adam, Aaron Praktiknjo</i>	
A NEW HYBRID APPROACH FOR THE MULTIMODE RESOURCE-CONSTRAINED PROJECT SCHEDULING PROBLEMS	1258
<i>Forhad Zaman, Saber Elsayed, Ruhul Sarker, Daryl Essam</i>	
TOWARDS ZERO-WAREHOUSING SMART MANUFACTURING FROM ZERO-INVENTORY JUST-IN-TIME PRODUCTION	1270
<i>Zhongyuan Lyu, Peng Lin, Daqiang Guo, George Q Huang</i>	
STUDY ON EFFECT OF PITTING PARAMETERS ON ULTIMATE STRENGTH OF STIFFENED PLATES UNDER BIDIRECTIONAL STRESSES	1277
<i>Lin Hua, Fan Wu, Zhen Ren, Jingchao Jiang, Yuchen Zhang</i>	
IMPLEMENTATION OF VISION-ASSISTED PATH PLANNING SYSTEM FOR BULK DIE SORTING IN SEMICONDUCTOR INDUSTRY	1286
<i>Hwa Jen Yap, Chen Hock Ooi, Siow Wee Chang</i>	
A CONCEPTUAL FRAMEWORK OF SMART MANUFACTURING FOR PCB INDUSTRIES	1298
<i>Jabir Mumtaz, Guan Zailin, Mudassar Rauf, Lei Yue, Cong He, Hao Wang</i>	
EXPERIMENTAL STUDY OF MECHANICAL, ELECTRICAL AND THERMAL PROPERTIES FOR 3D-PRINTED COPPER NANO-PARTICLES/PLA MATRIX POLYMER COMPOSITE	1307
<i>Jabran Saroia, Yanen Wang, Mingju Lei</i>	
MULTI-VIEW IMAGE SET CLASSIFICATION BASED ON DEEP GRASSMANN MANIFOLDS AND EXTREME LEARNING MACHINE	1317
<i>Fangyuan Lei, Qingyun Dai, Bingo W K Ling, Jing Su, Xun Lui, Jiangzhong Cao</i>	
A STUDY ON EFFECTIVE LIFTING OF MOBILE CONTAINER TYPE ONSHORE LNG PLANT	1327
<i>Sungwook Kang, Chanjoo Lee, Jaewoong Kim, Huitack Jeong</i>	
CAPACITY ALLOCATION AND PRICING STRATEGIES FOR CLOUD COMPUTING SERVICE PROVIDERS	1337
<i>Reza Afghah, Özgür Özlük, Tonguç Ünliüyurt</i>	
VALUE OF INFORMATION SHARING IN COMPETITIVE ENVIRONMENT	1351
<i>Tai Pham, Duc Truong, Jirachai Buddhakulsomsiri</i>	
MODIFIED DDPG ALGORITHM APPLIED TO SIMULATION SUPERVISED LEARNING	1360
<i>Zhengxuan Jia, Yingying Xiao, Zhilong Zhao, Tingyu Lin</i>	
THE TWO-ECHELON VEHICLE ROUTING PROBLEM WITH DYNAMIC SATELLITES FOR CITY LOGISTICS	1371
<i>Chao-Lung Yang, Hendri Sutrisno, Arnold Samuel Chan, Budhi Sholeh Wibowo</i>	
A STOCHASTIC PROGRAMMING MODEL FOR MULTI-COMMODITY DISTRIBUTION CONSIDERING SECONDARY DISASTERS	1386
<i>Moddassir Khan Nayeem, Gyu M Lee</i>	

MULTI-OBJECTIVE OPTIMIZATION OF RAILWAY ALIGNMENT WITH DISTANCE TRANSFORM AND PARTICLE SWARM OPTIMIZATION	1398
<i>Hong Zhang, Hao Pu, Wei Li, Taoran Song, Jie Wang, Jianping Hu, Xianbao Peng</i>	
A TWO-STAGE STOCHASTIC PROGRAMMING MODEL FOR COMMODITY REDISTRIBUTION UNDER UNCERTAINTY IN DISASTER RESPONSE	1410
<i>Xuehong Gao, Gyu M Lee</i>	
SIMULATION BASED OPTIMIZATION FRAMEWORKS AS KEY ENABLERS FOR THE TRANSFORMATION TO INDUSTRY 4.0	1420
<i>Abdullah Alrabghi</i>	
DEEP LEARNING-BASED OBJECT RECOGNITION AND LOCATION FOR ROBOTIC DISASSEMBLY IN REMANUFACTURING	N/A
<i>Jing Zhu, Xiaomei Zhang, Wenjun Xu, Zhihao Liu, Zude Zhou, Duc Truong Pham</i>	
DYNAMIC SAFETY ASSESSMENT STRATEGY FOR HUMAN-ROBOT COLLABORATION IN MANUFACTURING	N/A
<i>Xinran Wang, Xiaomei Zhang, Wenjun Xu, Bitao Yao, Zude Zhou, Duc Truong Pham</i>	
A DYNAMIC AGENT-BASED MODELLING SIMULATION TO INVESTIGATE FAILURE OF KM IMPLEMENTATION IN DEVELOPING ENTERPRISES (A CASE STUDY OF KM IMPLEMENTATION FAILURE IN ONE OF THE IRANIAN OIL DRILLING OFFSHORE COMPANIES)	1426
<i>Abouzar Ilkhani, Shahnaz Piroozfar, Morteza Beigmohamadi</i>	
MULTI-LEVEL MANUFACTURING CAPABILITY MODELING FOR ROBOTIC MANUFACTURING SYSTEMS IN FACTORY FLOOR ENVIRONMENT	1437
<i>Xiangjie Du, Jiayi Liu, Qiang Yu, Wenjun Xu, Zude Zhou</i>	
DETECTION OF ROAD POLES FROM MOBILE LASER SCANNING DATA IN URBAN AREAS	1452
<i>You Li, Yonghua Lu, Xiaoming Li, Weixi Wang, Shengjun Tang, Yankun Wang, Zhilu Yuan, Dalin Li</i>	
HUMAN MOTION PREDICTION FOR HUMAN-ROBOT COLLABORATION IN MANUFACTURING USING SPEED ADAPTIVE ALGORITHM	N/A
<i>Luyao Hu, Quan Liu, Wenjun Xu, Zhihao Liu, Zude Zhou, Duc Truong Pham</i>	
A CASE STUDY OF PRODUCT DESIGN AND PROCESS INFORMATION MODEL BASED ON COMPLEX NETWORK	1464
<i>Peng Jiang, Yu Zheng, Liang Chen, Shaoyang Li</i>	
A USER VERIFICATION METHOD BASED ON DIFFERENCES OF INDIVIDUAL BEHAVIOR VIA USING RANDOM FOREST ALGORITHM	1479
<i>Jiajia Li, Qian Yi, Shuping Yi</i>	
SAFETY CLIMATE AND SAFETY PERFORMANCE IN THE CONSTRUCTION INDUSTRY OF PAKISTAN: THE ROLE OF SUPERVISOR SAFETY PRIORITY	1491
<i>Abdul Waheed, Miao Xiaoming, Salma Waheed</i>	
HIGH INVOLVEMENT WORK PRACTICES AND TEAM CREATIVE PERFORMANCE IN SERVICES INDUSTRY OF PAKISTAN: THE MODERATING ROLE OF WORKLOAD	1504
<i>Abdul Waheed, Miao Xiaoming, Salma Waheed</i>	
ANTHROPOMETRIC ASSESSMENT OF WELDING WORKERS IN A RAIL MANUFACTURING SYSTEM ENVIRONMENT	1516
<i>Khumbuzile Mdlalose, Olasumbo Makinde, Khumbulani Mpofo</i>	
PERFORMANCE ASSESSMENT OF THE SUPPLY CHAIN OF AN ELECTRONIC PRODUCT MANUFACTURING COMPANY USING SIMULATION-ENHANCED VALUE STREAM MAPPING	1524
<i>Refentse Selepe, Olasumbo Makinde, Thomas Munyai, Kem Ramdass</i>	
A GRAPH-BASED REQUIREMENT ELICITATION APPROACH IN THE CONTEXT OF SMART PRODUCT-SERVICE SYSTEMS	1537
<i>Zuoxu Wang, Pai Zheng, Chun-Hsien Chen, Li Pheng Khoo</i>	
A DISTRIBUTED CONSTRAINT OPTIMIZATION STRATEGY FOR MULTIPLE SHIPS TO AVOID COLLISIONS IN CLOSE QUARTER SITUATIONS	1549
<i>Shijie Li, Jialun Liu, Yu Zhang, Lanbo Zheng</i>	
CLOUD-BASED CONTROL OF INDUSTRIAL CYBER-PHYSICAL SYSTEMS	1561
<i>Peter Papcun, Erik Kajati, Chao Liu, Ray Zhong, Jiri Koziorek, Iveta Zolotova</i>	
A SOCIAL-CONSCIOUS SCHEDULING MODEL OF DUAL RESOURCES CONSTRAINED IDENTICAL PARALLEL MACHINE TO MINIMIZE TARDINESS AND MAXIMIZE OPERATOR PRODUCTIVITY	1575
<i>Muhammad Akbar, Takashi Irohara</i>	
AN IOT-ENABLED ENTANGLEMENT MANAGEMENT FRAMEWORK FOR FIXED-POSITION ASSEMBLY ISLANDS	1590
<i>Daqiang Guo, Peng Lin, Leidi Shen, Zhongyuan Lyu, George Q Huang, Yiming Rong</i>	
GENERATING ONTOLOGICAL EXPRESSIONS FROM RELATIONAL DATABASES	1598
<i>Abdolreza Hajmoosaei, John Arthur Graham</i>	
COMPLEX MANUFACTURING BUSINESS PROCESS DECOMPOSITION AND THE ALGORITHM IN CLOUD MANUFACTURING	1607
<i>Zhenjie Zhang, Yuanming Zhang, Jiawei Lu, Xuesong Xu, Fei Gao, Gang Xiao</i>	
A REINFORCEMENT LEARNING METHOD TO OPTIMIZE THE PRIORITY OF PRODUCT FOR SCHEDULING THE LARGE-SCALE COMPLEX MANUFACTURING SYSTEMS	1620
<i>Junliang Wang, Junjie He, Jie Zhang</i>	
THE IMPACT OF GUILT ON COLLEGE STUDENTS' SOCIAL AVOIDANCE PHENOMENON- BASED ON EYE MOVEMENT EXPERIMENTS	1628
<i>Juan Shi, Chenxu Peng</i>	

ESTIMATION OF LITHIUM-ION BATTERY STATE OF HEALTH USING STACKED RESIDUAL CAUSAL CONVOLUTIONAL NEURAL NETWORK	1639
<i>Huichun Lv, Jie Xu, Zilong Zhuang, Wei Qin</i>	
A HEURISTIC RULE BASED DYNAMIC OPEN SHOP SCHEDULING APPROACH USING COMPLEX NETWORK	1649
<i>Zilong Zhuang, Zhiyao Lu, Wei Qin</i>	
DNN-BASED RECOMMENDATION ALGORITHM FOR B2C MEDICAL PLATFORM	1659
<i>Jun Cai, Xuebin Hong, Qingyun Dai, Wenguo Wei, Yan Liu</i>	
MARKET-BASED TASK ASSIGNMENT FOR MULTI-POINT DYNAMIC AGGREGATION TASKS	1667
<i>Xin Du, Jia Zhang, Bin Xin, Yulong Ding, Zhihong Peng, Lihua Dou</i>	

VOLUME 3

A GENETIC ALGORITHM FOR JOINT DISTRICTING AND TRANSPORTATION SCHEDULING PLAN OF SUGARCANE SYSTEM	1679
<i>Kanchala Sudtachat</i>	
A HEURISTIC ALGORITHM FOR LOCATION ROUTING PROBLEM WITH OUTSOURCED DELIVERY	1689
<i>Junko Hosoda, Takashi Irohara</i>	
RESPONSE SURFACE METHODOLOGY BASED ENGINEERING INFORMATICS WITH A CASE ON OPTIMAL SHIFTING TIME IN AUTOMOTIVE GEAR SYNCHRONIZERS	1701
<i>Sanyka Banerjee, Pranab K Dan</i>	
DETECTING AND TRACING ASSEMBLY IN INTELLIGENT WORKSHOP:A APPLICATION BASED ON CONVOLUTIONAL NEURAL NETWORK	1716
<i>Shuai Wang, Ruifeng Guo, Hongliang Wang, Yuanjing Ma, Xiaoxing Zhang, Hexiang Huang, Shuai Wang</i>	
APPLICATION OF FREE-FORM CURVE IN SCREW ROTOR PROFILE DESIGN	1727
<i>Xueming He, Jiachuan Yu, Guojiang Shi, Rong Zhang</i>	
SMART INTERACTION IN A LANDING SYSTEM: STUDY THE BENEFITS OF INTERACTION TRANSPARENCY FROM AGENT-BASED MODEL	1736
<i>Hsueh Yi Lai, Chun-Hsien Chen, Li Pheng Khoo</i>	
ATMOSPHERIC AEROSOL PARTICLE COMPOSITION ANALYSIS METHOD BASED ON DEEP LEARNING	1748
<i>Yuanjing Ma, Ruifeng Guo, Hongliang Wang, Shuai Wang, Lu Gao, Huimin Ma</i>	
ANALYSIS AND COMPARISON OF RECOVERY STRATEGIES TO ENHANCE RESILIENCE FOR MATERIAL HANDLING SYSTEMS	1757
<i>Xiaoyu Tian, Ruiying Li</i>	
A CYBER PHYSICAL MACHINE TOOL FRAMEWORK BASED ON STEP-NC	1768
<i>Tsubasa Kubota, Chao Liu, Khamdi Mubarak, Xun Xu</i>	
DATA ANALYTICS SERVICE IN HIGHER EDUCATION: A CASE STUDY	1780
<i>Andy Nguyen, Lesley Gardner, Don Sheridan</i>	
AN ANALYSIS OF A TWO SUBSTITUTE PRODUCTS NEWSVENDOR PROBLEM WITH A BUDGET CONSTRAINT	1790
<i>Linlin Zhang, Guoqing Zhang, Zhong Yao</i>	
A TWO-SCALE SYSTEM-BASED INTEGRATED DESIGN OF TOPOLOGY AND MATERIAL	1805
<i>Shuting Chen, Guoxin Wang, Zhehuan Zhang, Yan Yan</i>	
A ROBUST OPTIMIZATION MODEL FOR THE WIRE BONDING MACHINE SCHEDULING	1819
<i>James Lin, Yu-Sheng Lee, Nai-Fang Chang, Sheng-I Chen</i>	
A POST-PROGNOSTIC DECISION APPROACH FOR PRODUCTION AND MAINTENANCE PLANNING	1832
<i>Omar Bougacha, Christophe Varnier, Noureddine Zerhouni, Sonia Hajri-Gabouj</i>	
EXPLORING THE IMPACT OF FUNCTIONAL TERMS ON IDEA GENERATION IN DESIGN	1847
<i>Jia Hao, Lu Wang, Ji Han, Dirk Schaefer</i>	
THE IMPACT OF CHINA'S BUSINESS ENVIRONMENT ON MANUFACTURING TRANSFER DECISIONS IN GLOBAL SUPPLY CHAIN AFTER THE TRADE WAR	1860
<i>Hao Luo, Qingyi Zhang</i>	
EXPERIMENT AND SIMULATION OF BIOMASS SUSPENDED COMBUSTION BOILER	1871
<i>Jie Lu, Shengyong Liu, Pin Zhang, Fang Yuan, Jiong Wang</i>	
THE AMBIGUITY-AVERSE OPTIMIZATION FOR OVERCONFIDENT NEWSVENDOR PROBLEM	1884
<i>Dasheng Wu, Feng Chen</i>	
ON THE JOINT OPTIMIZATION OF TRANSPORTATION AND LOT SIZING DECISIONS FOR A COLD PRODUCT WITH TIME VARYING DEMAND	1897
<i>Rami As'Ad, Moncer Hariga, Abdulrahim Shamayleh</i>	
EXPERIMENTAL STUDY ON CLOSED COMBUSTION CHARACTERISTICS OF BIOMASS PELLET FUEL	1910
<i>Fang Yuan, Shengyong Liu, Jiong Wang, Jie Lu, Shuqing Zhang</i>	
DECOMPOSITION OF OVERLAPPING OPTIMIZATION FUNCTIONS	1919
<i>Mohamed Radwan, Ruhul Sarker, Daryl Essam, Saber Elsayed</i>	
MONITORING NETWORK DATA BY CONSIDERING THE CORRELATION OF NETWORK FEATURE STATISTICS	1928
<i>Panpan Zhou, Dennis K J Lin, Xiaoyue Niu, Zhen He</i>	

OPTIMIZATION OF (S, S) INVENTORY POLICIES IN A DISTRIBUTION SYSTEM WITH MINIMUM AND MAXIMUM JOINT REPLENISHMENT QUANTITY CONSTRAINTS	1940
<i>Bo Dai, Haoxun Chen, Yuan Li, Yidong Zhang, Xiaoqing Wang, Yuming Deng</i>	
AUTOMATED KANO MODEL CATEGORIZATION OF ASPECTS FROM ONLINE RATINGS	1952
<i>Anusha Kumar, Nandan Sudarsanam</i>	
ACTIVE LEARNING-BASED APPROACH TO SVM RULE EXTRACTION FOR LUNG DISEASE DIAGNOSIS	1967
<i>Chien-Hsin Yang, Chao-Ton Su, Fang-Chih Tie, Chun-Chin Hsu</i>	
SELF TRAINING DOMAIN ADAPTATION FOR REAL WORLD APPLICATION OF DEEP LEARNING MODEL	1975
<i>Woojin Lee, Hoki Kim, Jaewook Lee</i>	
POINTER NETWORKS FOR SOLVING THE PERMUTATION FLOW SHOP SCHEDULING PROBLEM	1984
<i>Peng Zheng, Liling Zuo, Junliang Wang, Jie Zhang</i>	
DIGITAL TWIN-DRIVEN PORT HINTERLAND LOGISTICS SYNCHRONIZATION OPTIMIZATION	1992
<i>Yanghua Pan, Kai Zhang, Ting Qu, Naiqi Wu, Suxiu Xu, Congdong Li, Guoquan Huang</i>	
IDENTIFICATION, ANALYSIS, AND USAGE OF HARMFUL RESOURCES	2007
<i>D Daniel Sheu, Ming-Zai Yen, Yi-Jou Lin</i>	
MATHEMATICAL MODELS AND LOWER BOUNDS FOR AN INVENTORY ROUTING PROBLEM WITH BACKORDERS	2022
<i>K. R. Preethi, C. Rajendran, S. Viswanathan</i>	
A CLASSIFICATION METHOD OF UNBALANCED MANUFACTURING DATA SET USING GAN	2036
<i>Shilong Yu, Fuqin Hu, Liangshan Zhang, Bin Zhou, Jinsong Bao</i>	
DYNAMIC MODELLING OF THE RELATIONSHIP BETWEEN RISKS OF ACTIVITIES AND OPERATIONAL COSTS REDUCTION IN THE POST-IMPLEMENTATION PHASE OF THE ENTERPRISE RESOURCE PLANNING SYSTEM USING FUZZY COGNITIVE MAPS	2047
<i>Shahnaz Piroozfar, Zeinab Pourdehghan</i>	
THE COMPARISON OF TWO METHODS FOR CLUSTERING HEAD ANTHROPOMETRY USING 3D SCANNING DATA AMONG TAIWANESE MALES	2062
<i>Chia Chen Kuo, Mao Jiun Wang, Jun Ming Lu</i>	
SIMPLE ACCURATE APPROXIMATIONS OF THE CONTROL LIMIT POLICY IN CONDITION BASED MAINTENANCE	2069
<i>Ahmad Hanbali</i>	
IMPROVEMENT OF CROW SEARCH AND BAT ALGORITHMS USING TWO NOVEL MUTATION OPERATORS	2079
<i>Abhishek Rudra Pal, Ayush Mohanty, Dilip Kumar Pratihar</i>	
BI-CRITERIA SINGLE MACHINE BATCH SCHEDULING WITH BOUNDED BATCH AND JOB FAMILIES	2094
<i>Adam Stawowy, Jerzy Duda</i>	
APPROXIMATE ANALYSIS OF TANDEM QUEUES WITH UNRELIABLE SERVERS OF PH -SERVICE TIME, PH-REPAIR TIME AND BLOCKING	2107
<i>Yang Woo Shin, Dug Hee Moon</i>	
INTEGRATION OF CLOUD MANUFACTURING AND CLOUD REMANUFACTURING	2118
<i>Mohammad Hossein Mohammadi Siahroudi, Omid Fatahi Valilai</i>	
OPTIMIZATION OF INVENTORY ROUTING PROBLEM WITH PLANNED TRANSSHIPMENT: A CLOUD MANUFACTURING SYSTEMS PERSPECTIVE	2129
<i>Kimia Ansari, Hanie Rastegar Moghaddam, Mahdi Abouei, Omid Fatahi Valilai</i>	
A COLLABORATIVE MODEL FOR CONSOLIDATION OF SALES AND MARKETING FOR WAREHOUSING AND DISTRIBUTION PLANNING	2144
<i>Hanieh Rastegar Moghaddam, Mohammadjavad Ahmadi, Pouya Sampour Mahani, Omid Fatahi Valilai</i>	
PERFORMANCE EVALUATION OF A MULTI-PERIOD ASSEMBLY SUPPLY CHAIN UNDER DEMAND UNCERTAINTY AND OPERATIONAL DISRUPTIONS	2153
<i>Raghda B Taha</i>	
WARRANTY COST FOR REMANUFACTURED PRODUCTS CONSIDERING LEMON LAWS	2166
<i>Hennie Husniah, Udjianna Pasaribu, Bermawi P Iskandar</i>	
PHASE I MONITORING OF AUTOCORRELATED MULTIVARIATE POISSON DATA	2178
<i>Zhiqiong Wang, Zhen He, Xianhui Yin, Yanfen Shang</i>	
RESEARCH ON THE MEASUREMENT AND DIFFERENCE OF TOTAL-FACTOR ENERGY EFFICIENCY IN CHINA'S THREE URBAN AGGLOMERATIONS	2190
<i>Jian Li, Jiao Guo</i>	
CLUSTERING MODEL FOR IN-N-OUT PRODUCTS IN RETAIL: A CASE STUDY	2199
<i>Manuel Rodriguez-Mancha, Laura Hervert-Escobar, Neil Hernández-Gress</i>	
SOME CONSEQUENCES OF DEADLINE RUSH	2212
<i>Kenneth Doerr, David Nembhard</i>	
A PARALLEL MULTI-OBJECTIVE GENETIC ALGORITHM WITH LEARNING BASED MUTATION FOR NON-PERIODIC RAILWAY SCHEDULING	2222
<i>Krisanarach Nitisiri, Mitsuo Gen, Hayato Ohwada</i>	
TOWARDS CYBER-PHYSICAL SYSTEM INTELLIGENT SERVICES IN CLOUD MANUFACTURING	2236
<i>Khamdi Mubarak, Rivai Wardhani, Yuqian Lu, Xun Xu</i>	
HYBRID DIFFERENTIAL EVOLUTION-DATA MINING (HDEDM) ALGORITHM FOR UNCERTAIN DYNAMIC CMS PROBLEM	2248
<i>Mona Koushan, Fariborz Jolai, Lincoln C Wood</i>	

EFFECTIVE CONTROL SYSTEM DESIGN WITH COMMISSIONING BASED ON DIGITAL TWIN	2258
<i>Jiri Koziorek, Radim Kraut, Antonin Gavlas, Martin Mikolajek, Peter Papcun, Iveta Zolotova</i>	
BLOCKCHAIN IN INDUSTRY AND SERVICE: A STATE ART OF REVIEW	2273
<i>Zonggui Tian, Hanyang Guo, Ray Y Zhong, Zhi Li</i>	
STUDY OF COOPERATIVE MODELS OF TECHNOLOGY SUPPLY CHAIN IN ONLINE SOCIAL COMMUNITY	2280
<i>Lin Zhao, Yingfeng Zhang, Ray Y Zhong</i>	
BIG DATA ANALYTICS FOR FOOD COLD-CHAIN LOGISTICS: CHALLENGES AND OPPORTUNITIES	2292
<i>Qiaoyu Jin, Tao Peng</i>	
CLASSIFICATION, PERSONALISED SAFETY FRAMEWORK AND STRATEGY FOR HUMAN-ROBOT	2302
<i>Xi Vincent Wang, Argyri Seira, Lihui Wang</i>	
AN IMPROVED GENETIC ALGORITHM WITH A NOVEL SELECTION METHOD.....	2312
<i>Amit Kumar Das, Dilip Kumar Pratihar</i>	
IMPROVE RAILWAY VEHICLE AVAILABILITY BY SCHEDULING UNDER PREVENTIVE MAINTENANCE POLICIES	2325
<i>Izabela Heppner, Radoslaw Rudek</i>	
DISTRIBUTED MANUFACTURING: A VISION ABOUT THE IMPLEMENTATION OF SHAREECONOMY IN THE MANUFACTURING INDUSTRY	2333
<i>Oliver Riedel, Carsten Ellwein, Alexander Schmidt, Armin Lechler</i>	
A THIRD-PARTY SERVICE PLATFORM BASED ON CLOUD MANUFACTURING FOR 3D PRINTING	2343
<i>Liang Guo, Chao Zhang, Xun Xu, Ray Zhong, Yu Zhang, Ming Zhou</i>	
A HYBRID HUMAN-DATA METHODOLOGY FOR THE CONCEPTION OF OPERATIONAL PERFORMANCE MANAGEMENT SYSTEMS	2355
<i>Diogo Jantarada, Antonio Grilo</i>	
A NOVEL OPTIMISATION ALGORITHM FOR PRODUCT BASKET COMBINATION BASED ON MUTUAL INFORMATION AND LOGISTIC COSTS	2372
<i>Taha Raeisi, Jalal Delaram, Omid Fatahi Valilai</i>	
EXPLORING SUPPLY CHAIN DECEPTION, SUSTAINABILITY, AND CUSTOMER PERCEPTIONS	2384
<i>Adil Hammadi, Ruth Taylor, Torsten Reiners</i>	
CONSTRUCTION AND RESEARCH ON QUALITY CREDIT MODEL OF GOVERNMENT, ENTERPRISE AND CONSUMER BASED ON GAME THEORY	2404
<i>Li Zhou, Wei Feng, Bisong Liu, Yan Zhao</i>	
ANALYSIS OF RFID DATASETS FOR SMART MANUFACTURING SHOP FLOORS	2412
<i>Jingting Zhao, Zexuan Zhu, Dashuai Liu, Jannick Weber</i>	
STUDY ON A KNOWLEDGE-BASED MASTER DATA MANAGEMENT METHOD FOR MANUFACTURING BIG DATA.....	2424
<i>Chun Zhao, Lei Ren, Lin Zhang</i>	
THE APPLICATION OF AUTOMATED GANTRY CRANES IN EMPTY CONTAINER DEPOTS	2430
<i>Jim Sheffield, Corrine Ankenbruck</i>	
USING BUSINESS ECOSYSTEMS MAPPING TO GENERATE NEW COMPETITIVE VALUE PROPOSITIONS.....	2444
<i>Andrew Gill, Florian Urmetzer, Nicholas Reed</i>	
A REVIEW ON DIGITAL TWIN IN MANUFACTURING PROCESS.....	2457
<i>Rivai Wardhani, Khamdi Mubarak, Clement Mucha, Tsubasa Kubota, Yuqian Lu, Xun Xu</i>	
INTEGRATED PREVENTIVE MAINTENANCE PLANNING AND PRODUCTION SCHEDULING OPTIMIZATION WITH MECHINE DETERIORATION	2472
<i>Hongfeng Wang, Ying Li, Na Wang, Mingying Song</i>	
A SIMULATION DECISION-MAKING SUPPORT TOOL TO MANAGE CONSTRUCTION SITE OPERATIONS: A PILING CASE STUDY.....	2479
<i>Mohammed Adel Abdelmegid, Ashkan Mohajeri Naraghi, Vicente Gonzalez, Michael O'Sullivan, Cameron Walker, Mani Poshdar, Fei Ying</i>	
OPERATOR 4.0: THE HUMAN FACTOR IN THE NEW ERA OF MANUFACTURING	2494
<i>Emmanuel Flores, Xun Xu</i>	
Author Index	