Lecture Notes in Computer Science 7030

Commenced Publication in 1973
Founding and Former Series Editors:
Gerhard Goos, Juris Hartmanis, and Jan van Leeuwen

Editorial Board

David Hutchison
Lancaster University, UK

Takeo Kanade
Carnegie Mellon University, Pittsburgh, PA, USA

Josef Kittler
University of Surrey, Guildford, UK

Jon M. Kleinberg
Cornell University, Ithaca, NY, USA

Alfred Kobsa
University of California, Irvine, CA, USA

Friedemann Mattern
ETH Zurich, Switzerland

John C. Mitchell
Stanford University, CA, USA

Moni Naor
Weizmann Institute of Science, Rehovot, Israel

Oscar Nierstrasz
University of Bern, Switzerland

C. Pandu Rangan
Indian Institute of Technology, Madras, India

Bernhard Steffen
TU Dortmund University, Germany

Madhu Sudan
Microsoft Research, Cambridge, MA, USA

Demetri Terzopoulos
University of California, Los Angeles, CA, USA

Doug Tygar
University of California, Berkeley, CA, USA

Gerhard Weikum
Max Planck Institute for Informatics, Saarbruecken, Germany

Baoxiang Liu Chunlai Chai (Eds.)

Information Computing and Applications

Second International Conference, ICICA 2011
Qinhuangdao, China, October 28-31, 2011
Proceedings

Springer

Volume Editors

Baoxiang Liu
Hebei United University, College of Sciences
Xinhua West Road 46, Tangshan 063000, Hebei, China
E-mail: liubx5888@126.com

Chunlai Chai
Zhejiang Gongshang University
School of Computer Science and Information Engineering
Xuezheng Street 18, Hangzhou 310018, China
E-mail: ccl@mail.zjgsu.edu.cn

ISSN 0302-9743 e-ISSN 1611-3349
ISBN 978-3-642-25254-9 e-ISBN 978-3-642-25255-6
DOI 10.1007/978-3-642-25255-6
Springer Heidelberg Dordrecht London New York

Library of Congress Control Number: 2011940799

CR Subject Classification (1998): C.2, D.2, C.2.4, I.2.11, C.1.4, D.2.7

LNCS Sublibrary: SL 3 – Information Systems and Application, incl. Internet/Web and HCI

© Springer-Verlag Berlin Heidelberg 2011
This work is subject to copyright. All rights are reserved, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, re-use of illustrations, recitation, broadcasting, reproduction on microfilms or in any other way, and storage in data banks. Duplication of this publication or parts thereof is permitted only under the provisions of the German Copyright Law of September 9, 1965, in its current version, and permission for use must always be obtained from Springer. Violations are liable to prosecution under the German Copyright Law.
The use of general descriptive names, registered names, trademarks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

Typesetting: Camera-ready by author, data conversion by Scientific Publishing Services, Chennai, India

Printed on acid-free paper

Springer is part of Springer Science+Business Media (www.springer.com)

Preface

Welcome to the proceedings of the International Conference on Information Computing and Applications (ICICA 2011), which was held in Qinhuangdao, China, October 28-30, 2011.

As future-generation information technology, information computing and applications become specialized, information computing and applications including hardware, software, communications and networks are growing with ever increasing scale and heterogeneity, and becoming overly complex. The complexity is getting more critical along with the growing applications. To cope with the growing and computing complexity, information computing and applications focus on intelligent, self-manageable, scalable computing systems and applications to the maximum extent possible without human intervention or guidance.

With the rapid development of information science and technology, information computing has become the third approach for scientific research. Information computing and applications is the field of study concerned with constructing intelligent computing, mathematical models, numerical solution techniques and using computers to analyze and solve natural scientific, social scientific and engineering problems. In practical use, it is typically the application of computer simulation, intelligent computing, Internet computing, pervasive computing, scalable computing, trusted computing, autonomy-oriented computing, evolutionary computing, mobile computing, applications and other forms of computation to problems in various scientific disciplines and engineering. Information computing and applications is an important underpinning for techniques used in information and computational science and there are many unresolved problems worth studying.

The ICICA 2011 conference provided a forum for engineers and scientists in academia, industry, and government to address the most innovative research and development issues including technical challenges and social, legal, political, and economic issues, and to present and discuss their ideas, results, work in progress and experience on all aspects of information computing and applications.

There was a very large number of paper submissions (865), representing six countries and regions. All submissions were reviewed by at least three Program or Technical Committee members or external reviewers. It was extremely difficult to select the presentations for the conference because there were so many excellent and interesting submissions. In order to allocate as many papers as possible and keep the high quality of the conference, we finally decided to accept 289 papers for presentation, reflecting a 33.2% acceptance rate. And 97 papers are included in this volume. We believe that all of these papers and topics not only provided novel ideas, new results, work in progress and state-of-the-art techniques in this field, but also stimulated future research activities in the area of information computing and applications.

The exciting program of this conference was the result of the hard and excellent work of many individuals, such as the Program and Technical Committee members, external reviewers and Publication Chairs, all working under a very tight schedule. We are also grateful to the members of the local Organizing Committee for supporting us in handling so many organizational tasks, and to the keynote speakers for accepting to come to the conference with enthusiasm. Last but not least, we hope you enjoy the conference proceedings.

October 2011

Baoxiang Liu
Chunlai Chai

Organization

ICICA2011 was organized by the Hebei Applied Statistical Society (HASS), College of Science of Hebei United University, and sponsored by the National Natural Science Foundation of China, Northeastern University at Qinhuangdao, Yanshan University and Nanyang Technological University. It was held in cooperation with *Lecture Notes in Computer Science* (LNCS) of Springer.

Executive Committee

Honorary Chair
Qun Lin, Chinese Academy of Sciences, China

General Chairs
Yanchun Zhang, Victoria University, Australia
Baoxiang Liu, Hebei United University, China
Yiming Chen, Yanshan University, China

Program Chairs
Chunfeng Liu, Hebei United University, China
Leizhen Wang, Northeastern University at Qinhuangdao, China
Chunlai Chai, Zhejiang Gongshang University, China

Local Arrangements Chairs
Jincai Chang, Hebei United University, China
Aimin Yang, Hebei United University, China

Steering Committee
Qun Lin, Chinese Academy of Sciences, China
Yuhang Yang, Shanghai Jiao Tong University, China
MaodeMa, Nanyang Technological University, Singapore
Nadia Nedjah, State University of Rio de Janeiro, Brazil
Lorna Uden, Staffordshire University, UK
Xingjie Hui, Northeastern University at Qinhuangdao, China
Xiaoqi Li, Northeastern University at Qinhuangdao, China
Xiaomin Wang, Northeastern University at Qinhuangdao, China
Yiming Chen, Yanshan University, China
Maohui Xia, Yanshan University, China
Chunxiao Yu, Yanshan University, China

	Yajuan Hao, Yanshan University, China
	Dianxuan Gong, Hebei United University, China
	Yajun Zhang, Northeastern University, China
Publicity Chairs	Aimin Yang, Hebei United University, China
	Chunlai Chai, Zhejiang Gongshang University, China
Publication Chairs	Yuhang Yang, Shanghai Jiao Tong University, China
Financial Chair	Chunfeng Liu, Hebei United University, China
	Jincai Chang, Hebei United University, China
Local Arrangements Committee	Li Feng, Hebei United University, China
	Songzhu Zhang, Northeastern University at Qinhuangdao, China
	Jiao Gao, Northeastern University at Qinhuangdao, China
	Yamian Peng, Hebei United University, China
	Lichao Feng, Hebei United University, China
	Dianxuan Gong, Hebei United University, China
	Yuhuan Cui, Hebei United University, China
Secretaries	Jingguo Qu, Hebei United University, China
	Huancheng Zhang, Hebei United University, China
	Yafeng Yang, Hebei United University, China

Program/Technical Committee

Yuan Lin	Norwegian University of Science and Technology, Norway
Yajun Li	Shanghai Jiao Tong University, China
Yanliang Jin	Shanghai University, China
Mingyi Gao	National Institute of AIST, Japan
Yajun Guo	Huazhong Normal University, China
Haibing Yin	Peking University, China
Jianxin Chen	University of Vigo, Spain
Miche Rossi	University of Padova, Italy
Ven Prasad	Delft University of Technology, The Netherlands
Mina Gui	Texas State University, USA

Nils Asc	University of Bonn, Germany
Ragip Kur	Nokia Research, USA
On Altintas	Toyota InfoTechnology Center, Japan
Suresh Subra	George Washington University, USA
Xiyin Wang	Hebei United University, China
Dianxuan Gong	Hebei United University, China
Chunxiao Yu	Yanshan University, China
Yanbin Sun	Beijing University of Posts and Telecommunications, China
Guofu Gui	CMC Corporation, China
Haiyong Bao	NTT Co., Ltd., Japan
Xiwen Hu	Wuhan University of Technology, China
Mengze Liao	Cisco China R&D Center, China
Yangwen Zou	Apple China Co., Ltd., China
Liang Zhou	ENSTA-ParisTech, France
Zhanguo Wei	Beijing Forestry University, China
Hao Chen	Hu'nan University, China
Lilei Wang	Beijing University of Posts and Telecommunications, China
Xilong Qu	Hunan Institute of Engineering, China
Duolin Liu	ShenYang Ligong University, China
Xiaozhu Liu	Wuhan University, China
Yanbing Sun	Beijing University of Posts and Telecommunications, China
Yiming Chen	Yanshan University, China
Hui Wang	University of Evry, France
Shuang Cong	University of Science and Technology of China, China
Haining Wang	College of William and Mary, USA
Zengqiang Chen	Nankai University, China
Dumisa Wellington Ngwenya	Illinois State University, USA
Hu Changhua	Xi'an Research Insti. of Hi-Tech, China
Juntao Fei	Hohai University, China
Zhao-Hui Jiang	Hiroshima Institute of Technology, Japan
Michael Watts	Lincoln University, New Zealand
Tai-hon Kim	Defense Security Command, Korea
Muhammad Khan	Southwest Jiaotong University, China
Seong Kong	The University of Tennessee, USA
Worap Kreesuradej	King Mongkutus Institute of Technology Ladkrabang, Thailand
Uwe Kuger	Queen's University Belfast, UK
Xiao Li	CINVESTAV-IPN, Mexico
Stefa Lindstaedt	Division Manager, Knowledge Management, Austria

Paolo Li	Polytechnic of Bari, Italy
Tashi Kuremoto	Yamaguchi University, Japan
Chun Lee	Howon University, Korea
Zheng Liu	Nagasaki Institute of Applied Science, Japan
Michiharu Kurume	National College of Technology, Japan
Sean McLoo	National University of Ireland, Ireland
R. McMenemy	Queen's University Belfast, UK
Xiang Mei	The University of Leeds, UK
Cheol Moon	Gwangju University, Korea
Veli Mumcu	Technical University of Yildiz, Turkey
Nin Pang	Auckland University of Technology, New Zealand
Jian-Xin Peng	Queen's University of Belfast, UK
Lui Piroddi	Technical University of Milan, Italy
Girij Prasad	University of Ulster, UK
Cent Leung	Victoria University of Technology, Australia
Jams Li	University of Birmingham, UK
Liang Li	University of Sheffield, UK
Hai Qi	University of Tennessee, USA
Wi Richert	University of Paderborn, Germany
Meh shafiei	Dalhousie University, Canada
Sa Sharma	University of Plymouth, UK
Dong Yue	Huazhong University of Science and Technology, China
YongSheng Ding	Donghua University, China
Yuezhi Zhou	Tsinghua University, China
Yongning Tang	Illinois State University, USA
Jun Cai	University of Manitoba, Canada
Sunil Maharaj Sentech	University of Pretoria, South Africa
Mei Yu	Simula Research Laboratory, Norway
Gui-Rong Xue	Shanghai Jiao Tong University, China
Zhichun Li	Northwestern University, China
Lisong Xu	University of Nebraska-Lincoln, USA
Wang Bin	Chinese Academy of Sciences, China
Yan Zhang	Simula Research Laboratory and University of Oslo, Norway
Ruichun Tang	Ocean University of China, China
Wenbin Jiang	Huazhong University of Science and Technology, China
Xingang Zhang	Nanyang Normal University, China
Qishi Wu	University of Memphis, USA
Jalel Ben-Othman	University of Versailles, France

Table of Contents

Computational Economics and Finance

Implementation of Visualization Analysis Software for Evaluating the Changes of Permafrost on Qinghai-Tibet Plateau 1
Jiuyuan Huo and Yaonan Zhang

Statistical Analysis of Number of Applicants for Entrance Examination for MA Degree in China Based on Grey Prediction Model 9
Gang Li, Xing Wang, and Yala Tong

A Case-Based Reasoning Approach for Evaluating and Selecting Human Resource Management Information Systems Projects 17
Santoso Wibowo

Data Mining for Seasonal Influences in Broiler Breeding Based on Observational Study 25
Peijie Huang, Piyuan Lin, Shangwei Yan, and Meiyan Xiao

Application of Eco-service Value Theory to Environmental Impact Assessment of Land Use Planning 33
Ai-Qing Sun, Ke-Ning Wu, and Duan-Hai Cao

Numerical Analysis of Western Hills Highway Tunnel Excavation and Support 41
Deq-qing Gan, Hong-jian Lu, Xiao-na Lu, and Zhong-jian Yang

Study on the Positioning of Forestry Insect Pest Based on DEM and Digital Monitoring Technique 48
Feifei Zhao and Yanyou Qiao

Assessment of Soil Erosion in Water Source Area of the Danjiangkou Reservoir Using USLE and GIS 57
Xuan Song, Liping Du, Changlin Kou, and Yongli Ma

Influence of Robe River Limonite on the Sinter Quality 65
Lili Wang, Haibin Ke, Hao Zhang, Hongyan Zhang, and Jiangyan Zheng

The Design and Realization of Power System Load Forecasting Software 74
Yan Yan, Baoxiang Liu, Hongcan Yan, and Rong Zhang

The System Framework of Jinan Digital Municipality 81
Yong-li Zhou, Shu-jie Ma, and Wen Tan

Computational Statistics

The Research of Weighted-Average Fusion Method in Inland Traffic Flow Detection 89
Zhong-zhen Yan, Xin-ping Yan, Lei Xie, and Zheyue Wang

Distance-Related Invariants of Fasciagraphs and Rotagraphs 97
Fuqin Zhan, Youfu Qiao, and Huiying Zhang

Application of the Maximum Real Roots of Matching Polynomial 105
Youfu Qiao and Fuqin Zhan

Applying Backtracking Heuristics for Constrained Two-Dimensional Guillotine Cutting Problems 113
Luiz Jonatã, Piresde Araújo, and Plácido Rogério Pinheiro

Improvement and Application of TF * IDF Algorithm 121
Ji-Rui Li, Yan-Fang Mao, and Kai Yang

Theory and Algorithm Based on the General Similar Relationship between the Approximate Reduction 128
Baoxiang Liu and Hui Guo

Effective Software Fault Localization by Statistically Testing the Program Behavior Model 136
Azam Peyvandi-Pour and Saeed Parsa

Duplicate Form of Gould-Hsu Inversions and Binomial Identities 145
Chuanan Wei, Dianxuan Gong, and Jianbo Li

Schur-Convexity on Generalized Information Entropy and Its Applications 153
Bo-yan Xi, Shu-hong Wang, and Tian-yu Zhang

Reduced 4th-Order Eigenvalue Problem 161
Shu-hong Wang, Bao-cai Zhang, and Zhu-quan Gu

Numerical Analysis of Interface Crack Propagation in Reinforced Concrete Beams Strengthened with FRP by Extended Isoparametric Finite Element Method 169
Hong Wang, Hong Yuan, and Shuai Yang

An Algorithm of Improving the Consistence of the Positive Reciprocal Matrix Based on Relative Error 177
Qiuhong Fan, Baoxiang Liu, Yuhuan Zhang, and Ruiying Zhou

The Generalized Mann Iterative Process with Errors for Strongly Pseudocontractive Mappings in Arbitrary Banach Spaces 184
Cheng Wang, Hai-E Zhang, and Zhi-Ming Wang

Parallel Fourth-Order Runge-Kutta Method to Solve Differential Equations 192
Chunfeng Liu, Haiming Wu, Li Feng, and Aimin Yang

Mobile Computing and Applications

The Two-Phases-Service M/M/1/N Queuing System with the Server Breakdown and Multiple Vacations 200
Zeng Hui and Guan Wei

Improving Data Availability in Chord p2p System 208
Rafał Kapelko

No Regret Learning for Sensor Relocation in Mobile Sensor Networks . . . 216
Jin Li, Chi Zhang, Wei Yi Liu, and Kun Yue

Research on Decentralized Message Broadcasting for Multi-emergent Events 224
Haoming Guo, Feng Liang, and Yunzhen Liu

Research in Intrusion Detection System Based on Mobile Agent 233
Zhisong Hou, Zhou Yu, Wei Zheng, and Xiangang Zuo

Research on Network Information Search System Based on Mobile Agent 241
Zhisong Hou, Zhou Yu, Wei Zheng, and Xiangang Zuo

Research on Portable Frequency Hopping Wireless Data Transmission System 249
Ai-ju Chen and Yuan-juan Huang

Research on Improving Throughput of Wireless MIMO Network 258
Yongli An, Yang Xiao, Pei Wu, and Xuefei Gao

An Efficient and Lightweight User Authentication Scheme for Wireless Sensor Networks 266
Xiancun Zhou and Yan Xiong

Performance Analysis of Location Based Service Using TPEG&MBMS in 3G Mobile Networks 274
Lu Lou, Xin Xu, Zhili Chen, and Juan Cao

Social Networking and Computing

On the Dividend Problem in a Risk Model with Delayed Claims 282
Wei Zou and Jie-hua Xie

Discrete Construction of Power Network Voronoi Diagram 290
Yili Tan, Ye Zhao, and Yourong Wang

Research on Mathematical Model of Equipment Capability Planning Based on Resource Constraint 298
Xin Wang and Chongchong Ji

Generalized Lax-Friedrichs Schemes for Linear Advection Equation with Damping 305
Yun Wu, Hai-xin Jiang, and Wei Tong

Extension Limb Action Recognition Based on Acceleration Median 313
Yonghua Wang, Lei Qi, Fei Yuan, and Jian Yang

Research on Secure Multi-party Computational Geometry 322
Tao Geng, Shoushan Luo, Yang Xin, Xiaofeng Du, and Yixian Yang

Grid Transaction-Level Concurrency Control Protocol 330
Jun Chen, Yan-Pei Liu, and Hong-Yu Feng

Wavelet Theory and Application Summarizing 337
Hong-Yu Feng, Jian-ping Wang, Yan-cui Li, and Jun Chen

Research and Application on the Regular Hexagon Covering Honeycomb Model 344
Aimin Yang, Jianping Zheng, and Guanchen Zhou

Intelligent Computing and Applications

Prediction for Water Surface Evaporation Based on PCA and RBF Neural Network 351
Wei Cao, Sheng-jiang Zhang, Zhen-lin Lu, and Zi-la Jia

Decimal-Integer-Coded Genetic Algorithm for Trimmed Estimator of the Multiple Linear Errors in Variables Model 359
Fuchang Wang, Huirong Cao, and Xiaoshi Qian

Prediction of Wastewater Treatment Plants Performance Based on NW Multilayer Feedforward Small-World Artificial Neural Networks 367
Ruicheng Zhang and Xulei Hu

Hybrid Swarm-Based Optimization Algorithm of GA & VNS for Nurse Scheduling Problem 375
Zebin Zhang, Zhifeng Hao, and Han Huang

Evolutionary Computation of Multi-Band Antenna Using Multi-Objective Evolutionary Algorithm Based on Decomposition 383
Dawei Ding, Hongjin Wang, and Gang Wang

The Study of Improved Grid Resource Scheduling Algorithm 391
Qingshui Li, Yuling Zhai, Shanshan Han, and Binbin Mo

An Improved Genetic Algorithm for Network Nodes Clustering 399
Yong Li and Zhenwei Yu

Learning Form Experience: A Bayesian Network Based Reinforcement Learning Approach 407
Zhao Jin, Jian Jin, and Jiong Song

The Simulation System of Cytokine Network Based IMMUNE-B 415
Xianbao Cheng and Bao Chen

Fuzzy H-inf Control of Flexible Joint Robot 424
Feng Wang and Xiaoping Liu

The Application of Different RBF Neural Network in Approximation ... 432
Jincai Chang, Long Zhao, and Qianli Yang

Travel Demand Prediction in Tangshan City of China Based on Rough Set 440
Juan Li, Li Feng, and Guanchen Zhou

Internet and Web Computing

WSPOM: An Ontology Model for Web Service Planning 447
Liming Liu and Hongming Cai

A Requirement Group Based Web Service Scheduling Model..... 455
Xinyong Wu, Lihong Jiang, Fenglin Bu, and Hongming Cai

An Approach to Enhance Safe Large Data Exchange for Web Services..... 463
Chen Wang, Qingjie Liu, Haoming Guo, and Yunzhen Liu

Collect Environmental Field Data through Hybrid Network Technologies 472
Jiuyuan Huo and Yaonan Zhang

A New Model of Web Service Composition Framework..... 480
Zhang Yanwang

Multi-receiver Identity-Based Signcryption Scheme in the Standard Model 487
Yang Ming, Xiangmo Zhao, and Yumin Wang

Hypergraph Based Network Model and Architechture for Deep Space Exploration 495
Xiaobo Wang, Junde Song, and Xianwei Zhou

Cost-Benefit Analysis for Adaptive Web Service Substitution with Compensation 505
Ying Yin, Xizhe Zhang, and Bin Zhang

Study of WSNs Trust Valuation Based on Node Behavior 513
Qi Zhu

Optimal Design of Weigh for Networks Based on Rough Sets 521
Baoxiang Liu and Shasha Hao

Campus Type Network Virtual Community System 529
Gong Dianxuan, Wei Chuanan, Wang Ling, and Peng Yamian

The Establishment and Research of a Neural Network-Based Evaluation Model for Chinese Universities' Online PE Courses 537
Yunzhi Peng

Verification Tool of Software Requirement for Network Software 545
Tao He, Liping Li, and Huazhong Li

Synchronization Dynamics of Complex Network Models with Impulsive Control 553
Yanhui Gao

Parallel and Distributed Computing

Design and Test of Nodes for Field Information Acquisition Based on WUSN 561
Xiaoqing Yu, Pute Wu, and Zenglin Zhang

Application of Model Driven Architecture to Development Real-Time System Based on Aspect-Oriented 569
Wei Qiu and Li-Chen Zhang

Application Integration Patterns Based on Open Resource-Based Integrated Process Platform 577
Yan Zheng, Hongming Cai, and Lihong Jiang

Towards a Verbal Decision Analysis on the Selecting Practices of Framework SCRUM 585
Thais Cristina Sampaio Machado, Plácido Rogério Pinheiro, Marcelo Marcony Leal de Lima, and Henrique Farias Landim

Development of Portable Electrocardiogram Signal Generator 595
Ai-ju Chen and Yuan-juan Huang

Research on Random Collision Detection Algorithm Based on Improved PSO 602
Ting-dong Hu

Active Disturbance Rejection Decoupling Control Method for Gas Mixing Butterfly Valve Group 610
Zhikun Chen, Ruicheng Zhang, and Xu Wu

An LED Assembly Angle Detection System 618
Li Chunming, Shi Xinna, Xu Yunfeng, and Wu Shaoguang

Research on Simplified Decoding Algorithm of RA Code 625
Yanchun Shen, Yinpu Zhang, and Jinhu Zhang

Comparative Study on the Field of Time-Frequency Measurement and Control Based on LabVIEW 633
Hao Chen, Ying Liu, and Yan Shan

Protocol to Compute Polygon Intersection in STC Model 641
Yifei Yao, Miaomiao Tian, Shurong Ning, and Wei Yang

Adaptive Pole-Assignment Speed Control of Ultrasonic Motor 649
Lv Fangfang, Shi Jingzhuo, and Zhang Yu

Research on Algorithm of Image Processing of Butt Weld 657
Li Jun, Huo Ping, Li Xiangyang, and Shi Ying

System Simulation and Computing

Simulation of Microburst Escape with Probabilistic Pilot Model 663
Zhenxing Gao and Hongbin Gu

A Method for Space Tracking and Positioning of Surgical Instruments in Virtual Surgery Simulation 671
Zhaoliang Duan, Zhiyong Yuan, Weixin Si, Xiangyun Liao, and Jianhui Zhao

The Design of Antenna Control System Used in Flight Inspection System 680
Zhang Yachao, Zhang Jun, and Shi Xiaofeng

Modeling and Application of Battlefield Synthetic Natural Environment Based on Ontology 688
Bo Wang, Limin Zhang, and Yan Li

Research for Influence of Different Leg Postures of Human Body in Walking on Plantar Pressure 696
Yi Gao

Overall Design and Quality Control of Equipment Based on Virtual Prototyping 704
Qingjun Meng and Chengming He

Simulation System of Air Transport Route Planning 712
Ming Tong, Hu Liu, and MingHu Wu

A Corpus Callosum Segmentation Based on Adaptive Active Contour Model 719
Jia Tong, Yu Xiao Sheng, Wei Ying, and Wu Cheng Dong

3D Simulation System for Subway Construction Site 726
Zheng Zheng and Jing Ji

HLA Based Collaborative Simulation of Civil Aircraft Ground Services 734
Wu Bo, Hu Liu, Zhang Yibo, and Sun Yijie

Solving Singular Perturbation Problems by B-Spline and Artificial Viscosity Method 742
Jincai Chang, Qianli Yang, and Long Zhao

Computer Simulation and Calculation for Luminance Uniformity of Straight Line Radiation Sources 750
Jia Chen, Jia-wei Tan, Qing-huai Liu, and Fan-rong Zhang

The Infeasible Combined Homotopy Method for a Class of Programming Problems 758
Jia-wei Tani, Jia Chen, and Qing-huai Liu

Generating Query Plans for Distributed Query Processing Using Genetic Algorithm 765
T.V. Vijay Kumar and Shina Panicker

Author Index 773