International Conference on Innovative Computing, Information and Control

Conference Venue: Beijing Jiaotong University, Beijing, China
Dates: August 30 – September 1, 2006

Conference Program

August 29, 2006
Registration .................................................. 07:00-20:00
Tutorial ......................................................... 15:00-17:00
Welcome Reception at Central Garden Hotel ........ 18:00-20:00

August 30, 2006
Registration .................................................. 07:00-12:00
Opening ....................................................... 08:30-09:00
Keynote Speech A ........................................... 09:10-10:00
Coffee Break
Sessions A01-A06 ............................................ 10:20-12:20
Lunch
Sessions A07-A12 ............................................ 14:00-16:00
Coffee Break
Sessions A13-A18 ............................................ 16:20-18:20

August 31, 2006
Keynote Speech B ........................................... 09:10-10:00
Coffee Break
Sessions B01-B06 ............................................ 10:20-12:20
Lunch
Sessions B07-B12 ............................................ 14:00-16:00
Coffee Break
Sessions B13-B18 ............................................ 16:20-18:20
Banquet at Central Garden Hotel ................. 19:00-21:00

September 1, 2006
Keynote Speech C ........................................... 09:10-10:00
Coffee Break
Sessions C01-C06 ............................................ 10:20-12:20
Lunch
Sessions C07-C12 ............................................ 14:00-16:00
Coffee Break
Sessions C13-C18 ............................................ 16:20-18:20
Farewell at Central Garden Hotel ..................... 18:30-19:30

§ On August 29, 7:00 to 20:00, and August 30, 7:00 to 12:00,
  Registrate at the North Lobby of Infor Building
§ At the other time of the conference,
  Registrate at the 4th Floor of West Si Yuan Building
Conference Program

August 30, 10:20-12:00
Session A01: Power Systems Management and Control
Session A02: Information Networking and Applications
Session A03: Process Monitoring and Control (I)
Session A04: System Identification, Modeling, and Simulation
Session A05: Coding and Modulation
Session A06: Evolutionary Computation

August 30, 14:00-15:40
Session A07: Video-Based Security Surveillance
Session A08: Image and Signal Processing Techniques for Advanced Object Recognition and Retrieval
Session A09: Design and Implementation of Control Systems (I)
Session A10: Computer Networking (I)
Session A11: Fuzzy Systems and Applications (I)
Session A12: Information Hiding and Security (I)

August 30, 16:00-17:40
Session A13: Automation, Measurement and Control
Session A14: Intelligent Data Analysis and Applications
Session A15: Artificial Immune Systems (AIS) and Linear Matrix Inequality (LMI) Applications
Session A16: Image Processing (I)
Session A17: Design and Implementation of Control Systems (II)
Session A18: Computer Networking (II)

August 31, 10:20-12:00
Session B01: Innovative Embedded Computing
Session B02: Information Sharing and Data/Text Mining and Discovery
Session B03: Pattern Recognition and Classification (I)
Session B04: Design and Implementation of Control Systems (III)
Session B05: Fuzzy Systems and Applications (II)
Session B06: Video Processing

August 31, 14:00-15:40
Session B07: Emerging Approaches to Pervasive Applications
Session B08: Fuzzy Reasoning and Its Applications
Session B09: Signal Processing (I)
Session B10: Neural Networks and Applications
Session B11: Communication and Computer Networks
Session B12: Management in Business and Industry

**August 31, 16:00-17:40**
Session B13: Text Mining and Multimedia Data Mining Techniques and Applications
Session B14: Nagoya University 21st Century COE Program on Media Integration for Intelligent Transport Systems
Session B15: Design and Implementation of Control Systems (IV)
Session B16: Data Mining and Knowledge Discovery
Session B17: Image Processing (II)
Session B18: Signal Processing (II)

**September 1, 10:20-12:00**
Session C01: Fractional Fourier Transform and Its Applications
Session C02: Multimedia Security and Applications
Session C03: Signal Processing (III)
Session C04: Process Monitoring and Control (II)
Session C05: Pattern Recognition and Classification (II)
Session C06: Database and Software Systems

**September 1, 14:00-15:40**
Session C07: Integrated Control and Computing
Session C08: Models and Algorithms for Optimization
Session C09: Pattern Recognition and Classification (III)
Session C10: Intelligent Systems
Session C11: Neural Networks / Support Vector Machines
Session C12: Information Hiding and Security (II)

**September 1, 16:00-17:40**
Session C13: Control of Time-delay Systems
Session C14: Informational and Mathematical Models on Biomedical Elements and Organs
Session C15: Image Processing / Video Processing
Session C16: Cross-discipline Technology (I)
Session C17: Cross-discipline Technology (II)
Keynote Speech A
Theme: Watermarking, Steganography and Communications
Speaker: Prof. Ingemar J. Cox
University College London

Abstract

Digital watermarking and steganography are techniques for hiding information in media. For example, an imperceptible digital watermark is inserted into all DVD-audio products for the purpose of digital rights management. And there are many software programs that permit users to hide steganographic messages in innocuous images.

In this talk we will discuss the similarities and differences between digital watermarking and steganography. At first sight, these two forms of communication appear to be very similar and there are indeed common foundations to both, However, the requirements of watermarking and steganography are subtly different and these differences can lead to very different algorithmic designs.

We will also discuss communications models of watermarking and steganography. In particular, we will discuss how early models based on spread spectrum communications have now been superceded by more advanced models based on communications with side information.

Biography

Prof. Ingemar Cox is currently Professor and Chair of Telecommunications in the Departments of Electronic Engineering and Computer Science at University College London and Director of UCL's Adastral Park Postgraduate Campus. He is currently a holder of a Royal Society Wolfson Fellowship. He received his B.Sc. from University College London and Ph.D. from Oxford University. He was a member of the Technical Staff at AT&T Bell Labs at Murray Hill from 1984 until 1989 where his research interests were focused on mobile robots. In 1989 he joined NEC Research Institute in Princeton, NJ as a senior research scientist in the computer science division. At NEC, his research shifted to problems in computer vision and he was responsible for creating the computer vision group at NECI. He has worked on problems to do with stereo and motion correspondence and multimedia issues of image database retrieval and watermarking. In 1999, he was awarded the IEEE Signal Processing Society Best Paper Award (Image and Multidimensional Signal Processing Area) for a paper he co-authored on watermarking. From 1997-1999, he served as Chief Technical Officer of Signafy, Inc, a subsidiary of NEC responsible for the commercialization of watermarking. Between 1996 and 1999, he led the design of NEC's watermarking proposal for DVD video disks and later collaborated with IBM in developing the technology behind the joint "Galaxy" proposal supported by Hitachi, IBM, NEC, Pioneer and Sony. In 1999, he returned to NEC Research Institute as a Research Fellow. He is a senior member of the IEEE, a Fellow of the IEE and a Fellow of the Royal Society for Arts and Manufactures. He is on the editorial board of the Pattern Analysis and Applications Journal and an associate editor of the IEEE Trans. on Information Forensics and Security. He is co-author of a book entitled "Digital Watermarking" and the co-editor of two books, 'Autonomous Robots Vehicles' and 'Partitioning Data Sets: With Applications to Psychology, Computer Vision and Target Tracking'.
Session A01 (ICICIC-2006-IS01)
Session Title: Power Systems Management and Control
Session Chairs: Ming-Yuan Cho, Kaohsiung University of Applied Sciences, Taiwan
J. S. Wu, Kaohsiung University of Applied Sciences, Taiwan

A01-01 (ICICIC-2006-IS01-001)
To Approach Minimum Losses of the Distribution Systems by Artificial Neural Networks
Yen-Ming Tzeng and Shu-Yao Ho
Fortune Institute of Technology, Taiwan

A01-02 (ICICIC-2006-IS01-002)
The Development of Load Characteristics Information Network System to Improve the Estimated Efficiency of Load Synthesis in Taipower
J.C. Hwang, C.W. Huang, and C.T. Cheng
Kaohsiung University of Applied Sciences, Taiwan

A01-03 (ICICIC-2006-IS01-004)
The Development and Implementation of Optimum Load Control Strategy of Air Conditioner Based High Voltage Customers
Ming Yuan Cho, Tsair Fwu Lee, Shih Wei Kau, and Chien Nan Chen
Kaohsiung University of Applied Sciences, Taiwan

A01-04 (ICICIC-2006-IS01-005)
An Evolutionary-Based Approach for Outage Scheduling of Electrical Distribution Feeders
J.S. Wu, T.E. Lee, and K.S. Lo
Kaohsiung University of Applied Sciences, Taiwan

A01-05 (ICICIC-2006-IS01-006)
A New Algorithm of Face Recognition with Illumination Variation
Lifang Wu, Xiaoqing Zhao, Xiaoguang He, Ling Tu, and Jie Tian
Beijing University of Technology, China

A01-06 (ICICIC-2006-IS01-007)
A Method of Nonlinear Manifold Classification using ISOMAP
Lifang Wu, Ning Wei, Juanjuan Wang, and Yue Guo
Beijing University of Technology, China

A01-07 (ICICIC-2006-0908)
Fault Diagnosis of Power Transformers Using SVM/ANN with Clonal Selection Algorithm for Features and Kernel Parameters Selection
Ming-Yuan Cho, Tsair-Fwu Lee, Shih-Wei Kau, Chin-Shiuh Shieh, and Chao-Ji Chou
Kaohsiung University of Applied Science, Taiwan

A01-08 (ICICIC-2006-1065)
Intelligent Fault Isolation of Control Valves in a Power Plant
A.Ramezanifar, A. Afshar, and S.K.Yadavar Nikravesh
Amirkabir University of Technology, Iran

A01-09 (ICICIC-2006-0581)
Research of Multivariable GPC and Its Application in Thermal Power Plant
Peng Guo
North China Electric Power University, China

A01-10 (ICICIC-2006-0763)
Design of a Power System Stabilizer Using a new Recurrent Neural Network
Chun-Jung Chen and Tien-Chi Chen
Cheng Kung University, Taiwan
Session A02 (Invited Session ICICIC-2006-IS02)
Session Title: Information Networking and Applications
Session Chair: Takuo Nakashima, Kyushu Tokai University, Japan
Wei Kuang Lai, Sun Yat-sen University, Taiwan

A02-01 (ICICIC-2006-IS02-001)
Property Analysis of Heavy-Tailed Traffic by Simulator
Takuo Nakashima and Akari Ono
Kyushu Tokai University, Japan

A02-02 (ICICIC-2006-IS02-002)
A Detective Method for SYN Flood Attacks
Takuo Nakashima and Shunsuke Oshima
Kyushu Tokai University, Japan

A02-03 (ICICIC-2006-IS02-003)
Certificates Verification Based on Trust Matrix in PKI
Wen Zhao and San-ping Tang
Sichuan University, China

A02-04 (ICICIC-2006-IS02-004)
Research of SMB-Based Highly Distributed Data Acquisition System
Qichang Duang, Li Mao, Congli Zhang, and L. Zhang
Chongqing University, China

A02-05 (ICICIC-2006-IS02-005)
Time Scaling Property on Edge Routers
Takuo Nakashima
Kyushu Tokai University, Japan

A02-06 (ICICIC-2006-0739)
Local Hop-count Probability Grid: An Improvement Nodes Localization Scheme in WSN
Zude Zhou, Sheng Wang, and Quan Liu
Wuhan University of Technology, China

A02-07 (ICICIC-2006-0062)
Network Sensor and Its Application in Structure Health Monitoring System
Zhan-Feng Gao, Yan-Liang Du, Mu-Biao Su, and Biaoping Chen
Shijiazhuang Railway Institute, China

A02-08 (ICICIC-2006-0949)
A Vertex-arc-united Bidirectional Adjustment Algorithm in Lifetime Optimization of Sensor Networks
Yantao Pan, Wei Peng, and Xicheng Lu
National University of Defense Technology, China

A02-09 (ICICIC-2006-1101)
An Improved MAC Protocol for Wireless Sensor Networks
Bichong Hou and Gang Zhu
Beijing Jiaotong University, China

A02-10 (ICICIC-2006-0553)
Bound on the Operational Lifetime of Ultra Wide Band Sensor Network
Juan Xu, Yongfa Hong, and Lin Chen
Tongji University, China
Session A03
Session Title: Process Monitoring and Control (I)
Session Chairs: Michael Basin, Autonomous University of Nuevo Leon, Mexico
Zhong Zhang, Toyohashi University of Technology, Japan

A03-01 (ICICIC-2006-0017)
Investigation on Human-simulation Intelligent Control of the Touch Force in Remote Welding Teleteaching
L. J. Liu, H.M. Gao, G.G. Zhang, and L. Wu
Harbin Institute of Technology, China

A03-02 (ICICIC-2006-0032)
Active Feedback Vibration Suppression of a Flexible Steel Cantilever Beam Using Smart Materials
Juntao Fei and Yunmei Fang
University of Akron, USA

A03-03 (ICICIC-2006-0112)
Adaptive Feedback-Feedforward Control for a Class of Nonlinear Chemical Processes
Li Jia and Min-Sen Chiu
Shanghai University, China

A03-04 (ICICIC-2006-0465)
The Application of Independent Component Analysis in Process Monitoring
Hongguang Li and Hui Guo
Beijing University of Chemical Technology, China

A03-05 (ICICIC-2006-0289)
Optimal Filtering for Linear System States over Polynomial Observations
Michael Basin and Joel Perez
Autonomous University of Nuevo Leon, Mexico

A03-06 (ICICIC-2006-0307)
Motion Synchronization System of Filament Winding Machine
Jiazhong Xu, Bo You, Deli Jia and Dongjie Li
Harbin University of Science and Technology, China

A03-07 (ICICIC-2006-0842)
Design and Simulation of Autonomous Control System of Satellite
Junhua Xiang and Yulin Zhang
National University of Defense Technology, China

A03-08 (ICICIC-2006-0846)
Measurements and Improvements of Conducted Electromagnetic Interference Emission Caused by the Switching Circuit
Yuh-Yih Lu, Zhi-Hua Chen, Chung-Hsiung Yeh, and Hsiang-Cheh Huang
Minghsin University of Science and Technology, Taiwan

A03-09 (ICICIC-2006-0536)
Hybrid Control Based on Improved Radial Basis Function Network for Electro-hydraulic Servo System
Peng Yang, Jun Xu, Jie He, Lihua Liang, and Guobin Li
Harbin Engineering University, China

A03-10 (ICICIC-2006-0770)
Reducing Specular Reflection Components of Metallic Surfaces Using Photometric Linearization
Zhong Zhang, Shiqing Ren, Miyake Tetsuo, Hisanaga Fujiwara, and Takashi Imamura
Toyohashi University of Technology, Japan
Session A04
Session Title: System Identification, Modeling, and Simulation
Session Chairs: Lianming Sun, University of Kitakyushu, Japan
Peng Shi, University of Glamorgan, UK

A04-01 (ICICIC-2006-0122)
Parameter Estimation of DSSS Signals with Modified Fourth-Order Cumulants
Xiao-Ming Zhang and Zhong-Zhao Zhang
Harbin Institute of Technology, China

A04-02 (ICICIC-2006-0198)
A Symbolic Computational Method for Dynamic Simulation of Multibody Systems
Filip V. and Neagu A.
Valahia University of Targoviste, Romania

A04-03 (ICICIC-2006-0952)
An Algorithm for Identification of Reduced-Oder Dynamic Models of Gas Turbines
Xuewu Dai, Tim Breikin, and Hong Wang
University of Manchester, UK

A04-04 (ICICIC-2006-0322)
Discussion and Prediction of Mechanical Properties for Single Layer ACSR
Fang Liu, Raymond D. Findlay, and Qiang Song
McMaster University, Canada

A04-05 (ICICIC-2006-1046)
State Estimation of a Boiler Using Nonlinear Observer
A. Ramezanifar , A. Afsar , and S.K. Yadavar Nikravesh
Amirkabir University of Technology, Iran

A04-06 (ICICIC-2006-1097)
Switched to B04

A04-07 (ICICIC-2006-1091)
Change Point Analysis for Sequence of Normal Means Based on Multiple Comparison Procedure
Tsunehisa Imada and Hideyuki Douke
Kyushu Tokai University, Japan

A04-08 (ICICIC-2006-0882)
Identification and Error Analysis in Frequency Domain
Lianming Sun and Akira Sano
The University of Kitakyushu, Japan

A04-09 (ICICIC-2006-0937)
Flame Feature Model Development and Its Application to Flame Detection
Tai-Fang Lu, Chien-Yuan Peng, Wen-Bing Horng, and Jian-Wen Peng
Providence University, Taiwan

A04-10 (ICICIC-2006-1077)
A New Hybrid Data Structure for 3D GIS
Huixin Wu and Huifeng Xue
Northwestern Polytechnical University, China
Session A05
Session Title: Coding and Modulation
Session Chair: Gwo-Jia Jong, Kaohsiung University of Applied Sciences, Taiwan
Huailin Cui, Northwestern Polytechnical University, China

A05-01 (ICICIC-2006-0202)
Two-dimensional Channel Estimation Based on Sliding Window for Digital Amplitude Modulation Broadcasting System
Jikang Wang and Heqin Zhou
University of Science and Technology of China, China

A05-02 (ICICIC-2006-0283)
A New Scheme Combining Space-time Bit Interleave Coded Modulation with Phase Sweeping
Tao Huang, Chaowei Yuan, and Chuanglu Sun
Beijing University of Posts and Telecommunications, China

A05-03 (ICICIC-2006-0296)
A Modified Sub-optimal Algorithm for Reducing PAPR of Multicarrier Communication Systems
Le Hu, Chisheng Li, and Guojin Wan
Nanchang University, China

A05-04 (ICICIC-2006-0118)
Joint Time and Frequency Analysis for Light Pulses in the Presence of Third Order Dispersion in Optical Fibers
Zhonglei Mei
Lanzhou University, China

A05-05 (ICICIC-2006-0829)
The Implementation of Adaptive LMS Clutter Cancellation based on FM Broadcast
Hong Wan, Shentang Li, and Zhigang Wang
Information Engineering University, China

A05-06 (ICICIC-2006-1104)
A Study of Weighted Signal Subspace Spatial Spectrum Estimation in Constant Beam Width Beam Space
Huailin Cui, Xi an Feng, and Zhishun Li
Northwestern Polytechnical University, China

A05-07 (ICICIC-2006-0789)
Unbalanced Exponent Modular Reduction over Binary Field and Its Implementation
Haibin Shen, Yier Jin, and Rongquan You
Zhejiang University, China

A05-08 (ICICIC-2006-0424)
An Efficient Euclidean Distance Estimation Scheme for Accelerating VQ Encoding
Chin-Chen Chang and Kuo-Lung Hung
Feng Chia University, Taiwan

A05-09 (ICICIC-2006-0532)
A Discrete Wavelet Transform Based State-codebook Search Algorithm for Vector Quantization
Chin-Chen Chang, Yung-Chen Chou, and Jau-Ji Shen
Feng Chia University, Taiwan

A05-10 (ICICIC-2006-0650)
A Novel Stopping Criterion for Turbo Decoding
Lei Li, Qin Wang, and Cheng Youn Lu
Beijing University of Science and Technology, China
Session A06
Session Title: Evolutionary Computation
Session Chairs: Junzo Watada, Waseda University, Japan
Alex K. B. See, Monash University, Malaysia

A06-01 (ICICIC-2006-0215)
Adaptive Clonal Selection with Elitism-Guided Crossover for Function Optimization
Jiang-qiang Hu, Chen Guo, Tie-shan Li, and Jian-chuan Yin
Dalian Maritime University, China

A06-02 (ICICIC-2006-0479)
An Ant Colony Optimization Algorithm for Multiple Travelling Salesman Problem
Junjie Pan and Dingwei Wang
Northeastern University, China

A06-03 (ICICIC-2006-0542)
GA-Optimized Wavelet Neural Networks for System Identification
Jinhua Xu
East China Normal University, China

A06-04 (ICICIC-2006-0543)
A New Fault Diagnosis Model Based on AIR Scheme
Gui-hong Zhou, Chun-cheng Zuo, Jia-zhong Wang, and Shu-xia Liu
Jilin University, China

A06-05 (ICICIC-2006-0717)
A Preliminary Study on Constructing Decision Tree with Gene Expression Programming
Weihong Wang, Qu Li, Shanshan Han, and Hai Lin
Zhejiang University of Technology, China

A06-06 (ICICIC-2006-0972)
Improved Genetic & Ant Colony Optimization Algorithm for Regional Air Defense WTA Problem
Tiao-Ping Fu, Yu-Shu Liu, and Jian-Hua Chen
Beijing Institute of Technology, China

A06-07 (ICICIC-2006-1031)
The Evolution of Cooperation in Heterogeneous Population
Yang Chen and Yong Zhao
Huazhong University of Science and Technology, China

A06-08 (ICICIC-2006-1055)
An Artificial Immune System Model for Multi Agents based Resource Discovery in Distributed Environments
Ki-Won Yeom and Ji-Hyung Park
Korea Institute of Science and Technology, Korea

A06-09 (ICICIC-2006-1083)
An Enhanced Method for the Snake Algorithm
Charles C. H. Lean, Alex K. B. See, and S. Anandan Shanmugam
Monash University, Malaysia

A06-10 (ICICIC-2006-1105)
Bio-Soft Computing Approach to Elevator Dispatching Problem
Don Jyh-Fu Jeng, Ikno Kim, and Junzo Watada
Waseda University, Japan
Session A07 (Invited Session ICICIC-2006-IS03)
Session Title: Video-Based Security Surveillance
Session Chair: Chao-Ho Chen, Kaohsiung University of Applied Sciences, Taiwan
Baozong Yuan, Beijing Jiaotong University, China

A07-01 (ICICIC-2006-IS03-001)
An Effective Authenticating Method on the Compressed Image Data
Tsong-Yi Chen, Da-Jinn Wang, Thou-Ho Chen, and Chung-Yih Lee
Kaohsiung University of Applied Sciences, Taiwan

A07-02 (ICICIC-2006-IS03-002)
A Robust Geometry-based Watermarking Scheme for 3D Meshes
Zhen Li, Wei-Min Zheng, and Zhe-Ming Lu
Harbin Institute of Technology, China

A07-03 (ICICIC-2006-IS03-003)
An Impulse Noise Reduction Method by Adaptive Pixel-correlation
Thou-Ho (Chao-Ho) Chen, Chao-Yu Chen, and Tsong-Yi Chen
Kaohsiung University of Applied Sciences, Taiwan

A07-04 (ICICIC-2006-IS03-004)
A DCT-Based Video Object Segmentation Algorithm for Rainy Situation Using Change Detection
Da-Jinn Wang, Thou-Ho (Chao-Ho) Chen, Hung-Shiuan Liau, and Tsong-Yi Chen
Kaohsiung Marine University Kaohsiung, Taiwan

A07-05 (ICICIC-2006-IS03-005)
SVD Based Blind Image Watermarking Algorithm
Wenhai Kong, Bian Yang, Di Wu, and Xiamu Niu
Harbin Institute of Technology, China

A07-06 (ICICIC-2006-0740)
Steganography in Compressed Video Stream
Changyong Xu, Xijian Ping, and Tao Zhang
Zhengzhou Information Science and Technology Institute, China

A07-07 (ICICIC-2006-0054)
Efficient Techniques for Signalling Intra Prediction Modes of H.264/Mpeg-4 Part 10
Jamil-ur-Rehman and Zhang Ye
Harbin Institute of Technology, China

A07-08 (ICICIC-2006-0073)
Modeling of MPEG Video Sequence Based on Mixture-Exponential
Yan Huo, Tao Jing, and Yumin Feng
Beijing Jiaotong University, China

A07-09 (ICICIC-2006-0184)
Super-Resolution Reconstruction of Compressed Video Based on Adaptive Quantization Constraint Set
Xu Zhong-qiang and Zhu Xiu-chang
Nanjing University of Posts and Telecommunications, China

A07-10 (ICICIC-2006-0203)
Film-to-Video Conversion with Scene Cut Detection
Chung-chi Lin, Ming-Hwa Sheu, Huann-keng Chiang, Chishyan Liaw, and Ming-che Chen
Yunlin University of Science and Technology, Taiwan
Session A08 (Invited Session ICICIC-2006-IS04)
Session Title: Image and Signal Processing Techniques for Advanced Object Recognition and Retrieval
Session Chair: Hiromitsu Hama, Osaka City University, Japan

Zhenfeng Zhu, Beijing Jiaotong University, China

A08-01 (ICICIC-2006-IS04-001)
A Method of Calculating Image Saliency and of Optimizing Efficient Distribution of Image Windows
Takashi Toriu and Shigeyoshi Nakajima
Osaka City University, Japan

A08-02 (ICICIC-2006-IS04-002)
Measurement of a Translation and a Rotation of a Tooth after an Orthodontic Treatment using GA
S. Nakajima, H. Arimoto, H. Rensha, and T. Toriu
Osaka City University, Japan

A08-03 (ICICIC-2006-IS04-003)
Timbre Analysis and Synthesis of Stringed Musical Instruments
Kunihiro Yasuda and Hiromitsu Hama
Osaka City University, Japan

A08-04 (ICICIC-2006-IS04-004)
Thin-type Three-dimensional Display Based on the Reconstruction of Parallax Rays
Hideya Takahashi, Manabu Chikayama, and Hiromitsu Fujinami
Osaka City University, Japan

A08-05 (ICICIC-2006-IS04-005)
A Dynamic Recognition of Human Actions and Related Objects
Masahiro Saitou, Atsuhiro Kojima, Tadahiro Kitahashi, and Kunio Fukunaga
Osaka Prefecture University, Japan

A08-06 (ICICIC-2006-IS04-006)
Building Maps of Unknown Environment through Observation of Human Actions
Masakatsu Mitani, Mamoru Takaya, Atsuhiro Kojima, and Kunio Fukunaga
Osaka Prefecture University, Japan

A08-07 (ICICIC-2006-IS04-007)
Three-dimensional Object Recognition Using Multiplex Complex Amplitude Information with Support Function
Nobukazu Yoshikawa and Yukie Ii
Saitama University, Japan

A08-08 (ICICIC-2006-0016)
De-noising with Novel DWT-PNNGMM for Speaker Recognition
Zhengquan Qiu and Junxun Yin
South China University of Technology, China

A08-09 (ICICIC-2006-0121)
Image Features Detection and Matching Based on SUSAN Method
Muyun Weng and Mingyi He
Northwestern Polytechnical University, China

A08-10 (ICICIC-2006-0148)
Palmprint Recognition Based on 2-Dimension PCA
Junwei Tao, Wei Jiang, Zan Gao, Shuang Chen, and Chao Wang
Shandong University, China
Session A09
Session Title: Design and Implementation of Control Systems (I)
Session Chair: Sheng Liu, Harbin Engineering University, China
            Lin Hong, Kaohsiung University of Applied Sciences, Taiwan

A09-01 (ICICIC-2006-0385)
Application of Optimized EKF in Direct Torque Control System of Induction Motor
Zhengyun Ran, Huade Li, and Shujin Chen
Beijing University of Science and Technology, China

A09-02 (ICICIC-2006-0402)
The Direct Approach to Unified GPC Based on ARMAX/CARIMA/CARMA Model and Application for
Pneumatic Actuator Control
Qiang Song and Fang Liu
Hangzhou Dianzi University, China

A09-03 (ICICIC-2006-0484)
Proposal of Incremental Sliding Mode Control
Yinxing Hao, Jianqiang Yi, Dongbin Zhao, and Wei Wang
Chinese Academy of Sciences, China

A09-04 (ICICIC-2006-0491)
A Novel Predictive Control and Its Application on Water Level System of Ship Boiler
Sheng Liu and Yanyan Li
Harbin Engineering University, China

A09-05 (ICICIC-2006-0534)
A Stochastic Maximum Principle for Systems with Jumps
Qimin Zhang and Xining Li
NingXia University, China

A09-06 (ICICIC-2006-0559)
Research on Boiler Drum Dynamic Model with Bond Graph
Xiyun Yang, Yuegang Iv, and Daping Xu
North China Electric Power University, China

A09-07 (ICICIC-2006-0562)
Controllability analysis based on Bond Graph
Xiyun Yang, Xiaojuan Han, Yibing Liu, and Daping Xu
North China Electric Power University, China

A09-08 (ICICIC-2006-0565)
Output Feedback Controllers Synthesis with Practical Pole Clustering for Descriptor Systems
Ching-Hsiang Lee, Lin Hong, Chun-Hsiung Fang, and Boris T. Polyak
Kaohsiung University of Applied Sciences, Taiwan

A09-09 (ICICIC-2006-0570)
Design of the Intelligent Control System of Telerobot Based on Virtual Reality
Feng Cui, Minglu Zhang, and Shenghui Guo
Hebei University of Technology, China

A09-10 (ICICIC-2006-0619)
Minimum Entropy Control Algorithm for General Dynamic Stochastic Systems
Jianfang Jia, Taiyuan Liu, Hong Yue, and Hong Wang
Chinese Academy of Sciences, China
Session A10
Session Title: Computer Networking (I)
Session Chairs: Chin-Shiuh Shieh, Kaohsiung University of Applied Sciences, Taiwan
                Jiun-Huei Ho, Cheng-Shiu University, Taiwan

A10-01 (ICICIC-2006-0214)
Design of Maximizing Clustered Sensor Network Lifetime
Yan-Liang Jin and Yi-Fan Jiang
Shanghai University, China

A10-02 (ICICIC-2006-0349)
Adaptive Scheduler to Improve QoS in IEEE 802.11e Wireless LANs
Rongbo Zhu and Yuhang Yang
Shanghai Jiao Tong University, China

A10-03 (ICICIC-2006-0373)
The Strategy and Method of QoS Parameter Processing for Grid Service Matchmaking
Kai-Jian Liang, Quan Liang, and Yang Yang
Hunan Institute of Engineering, China

A10-04 (ICICIC-2006-0457)
A Common Ontology-based Intelligent Configuration Management Model for IP Network Devices
Hui Xu and Debao Xiao
Central China Normal University, China

A10-05 (ICICIC-2006-1073)
New Traitor Tracing Scheme against Anonymous Attack
Chen Yang, Wenping Ma, and Xinmei Wang
Xidian University, China

A10-06 (ICICIC-2006-0445)
Using Machine Learning to Allocate Parallel Workload
Shun Long
JiNan University, China

A10-07 (ICICIC-2006-0903)
An Energy-Aware Routing Scheme with Node Relay Willingness in Wireless Sensor Networks
Huifang Chen, Hiroshi Mineno, and Tadanori Mizuno
Zhejiang University, China

A10-08 (ICICIC-2006-0611)
Game Based Flow Rate Control for Networks
Bocheng Zhong, Jianghong Han, Zhaofang Du, Yuan Ming, and Ming Tan
Hefei University of Technology, China

A10-09 (ICICIC-2006-0660)
Achieving Pareto-Efficient Bandwidth Allocations Using a Non-Monetary Mechanism
André Riedel and Timo Fischer
University of Göttingen, Germany

A10-10 (ICICIC-2006-0690)
Multi-Path QoS Routing with Power Control in TDMA-based Mobile Ad Hoc Networks
Yuan Li, XinMeng Chen, and Dan Yu
Wuhan University, China
Session A11
Session Title: Fuzzy Systems and Applications (I)
Session Chair: Jianqiang Yi, Chinese Academy of Sciences, China
          Ansheng Deng, Beijing Jiaotong University, China

A11-01 (ICICIC-2006-0013)
Fuzzy Neural Network for Evaluating Sensor Task Priorities
HUANG Shucai, LI Weimin, and LI Wei
Air Force Engineering University, China

A11-02 (ICICIC-2006-0066)
Stable and Quadratic Optimal Fuzzy PDC Control for TS-Fuzzy-Model-Based Control Systems
Wen-Hsien Ho and Jyh-Horng Chou
Kaohsiung First University of Science and Technology, Taiwan

A11-03 (ICICIC-2006-0098)
Fuzzy Capacitated Location-allocation Problem with Minimum Risk Criteria
Yan-Kui Liu and Xiao-Liang Zhu
Hebei University, China

A11-04 (ICICIC-2006-0226)
Fuzzy Iterative Learning Control for Nonlinear Systems with Missing Data
Fenghuang Cai, Wu Wang, and Fuwen Yang
Fuzhou University, China

A11-05 (ICICIC-2006-0244)
Research on a Fuzzy Controller for Hyperbaric Chamber
Shengzhi Yuan, Xiaofang Xie, Tao Sun, and Guang Hu
Naval Aeronautical Engineering Institute, China

A11-06 (ICICIC-2006-0258)
Study of Fuzzy Generalized Predictive Control Algorithm on Nonlinear Systems
Qiang Li, Baocun Qu, Zhiqiang Ge, and Xisheng Zhan
Liaoning University of Petroleum and Chemical Technology, China

A11-07 (ICICIC-2006-0301)
Inverse \( \alpha \)-Cuts and Interval \([a,b)\) -Cuts
Zhaohao Sun and Jun Han
University of Wollongong, Australia

A11-08 (ICICIC-2006-0304)
Fuzzy Sliding Mode Constrained Input Control for Robotic Manipulators Based on Systemic State
Wang Xin and Wei-Dong Chen
Yanshan University, China

A11-09 (ICICIC-2006-0347)
Fuzzy-Rough Set Aided Sentence Extraction Summarization
Hsun-Hui Huang, Yau-Hwang Kuo, and Horng-Chang Yang
Cheng Kung University, Taiwan

A11-10 (ICICIC-2006-0382)
Synchronized Control of Dual Linear Motors Position Servo System Based on Fuzzy Self-learning Compensation
Dongmei Yu, Qingding Guo and Qing Hu
Shenyang University of Technology, China
Session A12
Session Title: Information Hiding and Security (I)
Session Chairs: Zhengding Qiu, Beijing Jiaotong University, China
Lee Ming Cheng, City University of Hong Kong, HK

A12-01 (ICICIC-2006-0140)
Information Hiding in Text Using Typesetting Tools with Stego-Encoding
Chao Chen, Shuozhong Wang, and Xinpeng Zhang
Shanghai University, China

A12-02 (ICICIC-2006-0144)
A Scalable De-centralized Multicast Key Management Scheme
Yanyan Xu, Zhengquan Xu, Xi Chen, and Zhanwu Yu
Wuhan University, China

A12-03 (ICICIC-2006-0172)
Linkability of Two Blind Signature Schemes
Jianhong Zhang and Wei Zou
Peking University, China

A12-04 (ICICIC-2006-0173)
An Improved Anonymous ID-based Key Issuing Protocol
Yongquan Cai and Xiang Yan
Beijing University of Technology, China

A12-05 (ICICIC-2006-0180)
Based upon RBTC and LSB Substitution to Hide Data
Ching-Yu Yang
Penghu University, Taiwan

A12-06 (ICICIC-2006-0330)
Improvement of Threshold Signature Scheme Using Self-Certified Public Key
Jiguo Li, Yichen Zhang, and Zhijian Wang
Hohai University, China

A12-07 (ICICIC-2006-0483)
Information Hiding Using Secret Sharing Scheme
Xinguang Zou and Shenghe Sun
Harbin Institute of Technology, China

A12-08 (ICICIC-2006-0555)
Simplex Image Watermarking Resistant to RST Based on Radon Transform
Chun-e Zhang, Zhengding Qiu, and Dongmei Sun
Beijing Jiaotong University, China

A12-09 (ICICIC-2006-0563)
An Enhanced Chaos Based Image Encryption Algorithm
Guosheng Gu and Guoqiang Han
South China University of Technology, China

A12-10 (ICICIC-2006-0610)
Image Watermarking Robust to Print and Generation Copy
Ping Chen, Yao Zhao, and Jeng-Shyang Pan
Beijing Jiaotong University, China
Session A13 (Invited Session ICICIC-2006-IS05)
Session Title: Automation, Measurement and Control
Session Chair: Juhng-Perng Su, Yunlin University of Science and Technology, Taiwan
Ker-Wei Yu, National Kaohsiung Marine University, Taiwan

A13-01 (ICICIC-2006-IS05-001)
Fuzzy Gain Scheduled Integral Control and Its Application to a Hovercraft Vessel with Uncertainties
Chun-Chieh Wang and Juhng-Perng Su
Chienkuo Technology University, Taiwan

A13-02 (ICICIC-2006-IS05-003)
Design of a Cascade Hybrid Fuzzy Terminal Sliding Mode Controller for an Electro-hydraulic Position Servo System
Hong-Ming Chen and Juhng-Perng Su
Chienkuo Technology University, Taiwan

A13-03 (ICICIC-2006-IS05-004)
A Lyapunov Function Approach to Maximum Torque Control for Synchronous Reluctance Motor Speed Drive
Huann-Keng Chiang and Chien-An Chen
Yunlin University of Science and Technology, Taiwan

A13-04 (ICICIC-2006-IS05-005)
Applying Fuzzy Logic Control to an Electric Bicycle
Chi-Ying Liang, Wai-Hon Lin and Bruce Chang
Wu Feng Institute of Technology, Taiwan

A13-05 (ICICIC-2006-IS05-006)
Nonlinear Robust Control of a Magnetic Levitation System
Ting-En Lee, Juhng-Perng Su, and Ker-Wei Yu
Yunlin University of Science and Technology, Taiwan

A13-06 (ICICIC-2006-0137)
Sensing and Control for Geometry Stability of the Melt Pool and the Cross Sectional Area in Laser Cladding
Liangliang Nan, Weijun Liu, and Liangliang Nan
Chinese Academy of Sciences, China

A13-07 (ICICIC-2006-0190)
A Time-Series Data Analyzing System Using a New Time–Frequency Transform
Yih-Nen Jeng and You-Chi Cheng
Cheng Kung University, Taiwan

A13-08 (ICICIC-2006-0191)
A Matlab-based Simulation of System Stability in Frequency-field Analysis
Zhigang Xu and Changsheng Xu
Wuhan University of Technology, China

A13-09 (ICICIC-2006-0278)
The Application of Optimal Control Theory in Stabilizing Mine Grid
Xin Gao and Gongxun Yang
China University of Mining and Technology, China

A13-10 (ICICIC-2006-0279)
Supervised Robustly Feasible Soft Switching Model Predictive Control with Polytopic Uncertainty
Jingsong Wang
University of Birmingham, UK
Session A14 (Invited Session ICICIC-2006-IS06)
Session Title: Intelligent Data Analysis and Applications
Session Chairs: Tzung-Pei Hong, University of Kaohsiung, Taiwan
                Jamal Ameen, University of Glamorgan, UK

A14-01 (ICICIC-2006-IS06-001)
Particle Swarm Optimization for Control of Nonlinear Dynamics
Jiann-Horng Lin
I-Shou University, Taiwan

A14-02 (ICICIC-2006-IS06-002)
A Revised EM-Like Algorithm + K-OPT Methods for Solving the Traveling Salesman Problem
Peitsang Wu, Kung-Juian Yang, and Hsing-Chieh Fang
I-Shou University, Taiwan

A14-03 (ICICIC-2006-IS06-003)
A Kernel-based Fuzzy Clustering Algorithm
Jiun-Hau Wang, Wan-Jui Lee, and Shie-Jue Lee
National Sun Yat-Sen University, Taiwan

A14-04 (ICICIC-2006-IS06-004)
The Self-study and Auto-control Model of Machine’s Lifetime Learning Based on Database
Qichang Duan, Hongbo Jin, and Li Zhane
Chongqing University, China

A14-05 (ICICIC-2006-IS06-005)
A Genetic Approach for Coordinate Transformation of GPS Signals
Chih-Hung Wu, Hung-Ju Chou, Wei-Han Su
University of Kaohsiung, Taiwan

A14-06 (ICICIC-2006-IS06-006)
Integration of Genetic Algorithm and Neural Network for Financial Early Warning System: An Example of
Taiwanese Banking Industry
Jih-Chang Hsieh, Pei-Chann Chang, and Shih-Hsin Chen
Vanung University, Taiwan

A14-07 (ICICIC-2006-IS06-007)
Ontology-based Knowledge Retrieval in Organizational Memory
Kung-Juian Yang and Yuh-Min Chen
Fortune Institute of Technology, Taiwan

A14-08 (ICICIC-2006-IS06-008)
Maintenance of Fast Updated Frequent Pattern Trees for Record Modification
Tzung-Pei Hong, Jun-Wei Lin, and Yu-Lung Wu
University of Kaohsiung, Taiwan

A14-09 (ICICIC-2006-IS06-009)
Mining Time Series for Identifying Unusual Sub-sequences with Applications
Jamal Ameen and Rawshan Basha
University of Glamorgan, UK

A14-10 (ICICIC-2006-0974)
Extension Set and the Dependent Function of System Model
Yinai Sun, Yongquan Yu, Wen Cai, and Guangqiang Li
Guang Dong University of Technology, China
Session A15 (Invited Session ICICIC-2006-IS14)
Session Title: Artificial Immune Systems (AIS) and Linear Matrix Inequality (LMI) Applications
Session Chair: Te-Jen Su, Kaohsiung University of Applied Sciences, Taiwan
Ki-Won Yeom, Korea Institute of Science and Technology, Korea

A15-01 (ICICIC-2006-IS14-001)
Optimum Design Course Supported by AIS Algorithm for Undergraduate Students
Wen-Jye Shyr and Chien-Yu Lu
Changhua University of Education, Taiwan

A15-02 (ICICIC-2006-IS14-002)
Particle Swarm Optimization for Image Noise Cancellation
Yue-Cheng Chen, Hsin-Chih Wang, and Te-Jen Su
Kaohsiung University of Applied Sciences, Taiwan

A15-03 (ICICIC-2006-IS14-003)
A New Delay-Dependent Approach to Robust Stability for Uncertain Hybrid Bidirectional Associative Memory Neural Networks with Time-Varying Delays
Chien-Yu Lu, Te-Jen Su, and Wen-Jye Shyr
Changhua University of Education, Taiwan

A15-04 (ICICIC-2006-IS14-004)
Robust Stabilization for Uncertain Time-Delay Systems with Delay-Dependence
Pin-Lin Liu, Tung-Yi Lu, and I-Chang Chen
Chien-Kuo Technology University, Taiwan

A15-05 (ICICIC-2006-IS14-005)
Optimal Design of Lossless Passive Snubber for DC/DC Converters
Chien-Kuo Technology University, Taiwan

A15-06 (ICICIC-2006-IS14-006)
The Separation System of the Speech Signals Using Kalman Filter with Fuzzy Algorithm
Yu-Jen Chen, Chin-Chang Wang, Gwo-Jia Jong, and Boi-Wei Wang
Kaohsiung University of Applied Sciences, Taiwan

A15-07 (ICICIC-2006-0009)
Neuro-Fuzzy and Digital FIR Filter Approach for Power System Measurement Denoising
Jiekang Wu, Ying Liang, and Guotong Chen
Guangxi University, China

A15-08 (ICICIC-2006-0274)
Optimization of Soft Morphological Filter based on Tabu Search
Zhao Chun-Hui, Liang Gang-Jian, and Ning Hai-Chun
Harbin Engineering University, China

A15-09 (ICICIC-2006-1080)
FIR Digital Filters Design Based on Quantum-behaved Particle Swarm Optimization
Wei Fang, Jun Sun, Wenbo Xu, and Jing Li
Southern Yangtze University, China

A15-10 (ICICIC-2006-0714)
Pitch Detection with Fuzzy Computation
Mangui Liang, Qi Hu, Jie Peng, and Guoqiao Yu
Beijing Jiaotong University, China
Session A16
Session Title: Image Processing (I)
Session Chair: Bin-Yih Liao, Kaohsiung University of Applied Sciences, Taiwan

Shaohai Hu, Beijing Jiaotong University, China

A16-01 (ICICIC-2006-0315)
A New Wavelet Fitting Method for Geometric Correction
Shuang-Bo Fei and Rui-Zhen Zhao
Beijing Jiaotong University, China

A16-02 (ICICIC-2006-0316)
Algorithm for Medical Image Patching Based on Mutual Information
Shaohai Hu, Likuan Wang, and Shuwen Xu
Beijing Jiaotong University, China

A16-03 (ICICIC-2006-0360)
A Reducing Multi-Noise Contrast Enhancement Algorithm for Infrared Image
Changjiang Zhang, Xiaodong Wang, Haoran Zhang, Ganyun Lv, and Han Wei
Zhejiang Normal University, China

A16-04 (ICICIC-2006-0035)
Research on 3-D Reconstruction with a Series of Cross-Sectional Images
Lijie Gan and Zhong Qu
Chongqing Technology and Business University, China

A16-05 (ICICIC-2006-0399)
An Improved Multiscale Maximum Entropy Image Restoration Algorithm
Jing Sun, Lehua Wu, and Qi Gui
Chongqing Communication Institute, China

A16-06 (ICICIC-2006-0417)
Locally Salient Feature Extraction Using ICA for Content-Based Face Image Retrieval
Guoxia Sun, Ju Liu, Jiande Sun, and Shuzhong Ba
Shandong University, China

A16-07 (ICICIC-2006-0168)
Replacement of Image Patches with Rugged Soft Boundary Using Texture Synthesis
Kedar Shrestha, Qian Li, and Shuozhong Wang
Shanghai University, China

A16-08 (ICICIC-2006-0432)
Image Texture Segmentation with Ant Colony Systems
Mei-Shin Lai, Hsiang-Cheh Huang, Shu-Chuan Chu, Yu-Hsiu Huang, and Kuang-Chih Huang
Kaohsiung University of Applied Sciences, Taiwan

A16-09 (ICICIC-2006-0174)
Fusion Image Quality Appraisal Method of Dual-spectrum Night Vision Technology
Chuang Zhang, Lianfa Bai, Yi Zhang, and Baomin Zhang
Nanjing University of Science and Technology, China

A16-10 (ICICIC-2006-0469)
Robust Estimation for Background Subtraction
Hongxun Zhang and De Xu
Beijing Jiaotong University, China
Session A17
Session Title: Design and Implementation of Control Systems (II)
Session Chair: Yibing Liu, North China Electric Power University, China
Peng Shi, University of Glamorgan, UK

A17-01 (ICICIC-2006-0639)
Investigation on the Dynamic Behavior of High-Velocity Feed System Directly Driven by a Linear Motor
Shuhong Xiao and Changli Zha
Guangdong University of Technology, China

A17-02 (ICICIC-2006-0719)
Research on Adaptive Synchrodrive Control Technology for Adjustable-Pitch System
Hongche Guo and Qingding Guo
Shenyang University of Technology, China

A17-03 (ICICIC-2006-0774)
A New Initial Rotor Position Detection Technology Based on HF Injection and Software PLL
Shujin Chen, Baozhu Ma, Zhengyun Ran, Fei Guo, and Huade Li
Beijing University of Science and Technology, China

A17-04 (ICICIC-2006-0783)
Multiple Models Adaptive Decoupling Controller Using Dimension-By-Dimension Technology
Xin Wang and Hui Yang
Shanghai Jiao Tong University, China

A17-05 (ICICIC-2006-0818)
Digital Control for Semi-Active Isolation System with Magnetorheological Damper
Cunzhi Pan and Shaopu Yang
Shijiazhuang Railway Institute, China

A17-06 (ICICIC-2006-0858)
$H_{\infty}$ Gain-Scheduled Missile Controller Design Using Linear Parameter-Varying Feedback
Jianqiao Yu, Li Liu, Hongxia Zhao, and Chengdong Xu
Beijing Institute of Technology, China

A17-07 (ICICIC-2006-0906)
Parameters Identifying and Experiment of Automatic Gauge Control System in 300-Rolling Mill
Dong-Sheng Shan, Xiang-dong Kong, Ya-Ya An, and Ying-jie Gao
Yanshan University, China

A17-08 (ICICIC-2006-0907)
The Parametrization of All Stabilizing Smith Predictors for Certain Class of Non-Minimum Phase Time-Delay Plants
Kou Yamada and Hiroshi Takenaga
Gunma University, Japan

A17-09 (ICICIC-2006-0912)
The Parametrization of All Stabilizing Multi-Period Repetitive Controllers for Time-Delay Systems with the Specified Input-Output Frequency Characteristics
Kou Yamada and Makoto Kowada
Gunma University, Japan

A17-10 (ICICIC-2006-0914)
Open-pit Mine Truck Real-time Dispatching Principle under Macroscopic Control
Qiang Wang, Ying Zhang, Chong Chen, and Wenli Xu
Tsinghua University, China
Session A18
Session Title: Computer Networking (II)
Session Chairs: Changjia Chen, Beijing Jiaotong University, China
Wei Kuang Lai, Sun Yat-sen University, Taiwan

A18-01 (ICICIC-2006-0086)
Short-time Traffic Flow Forecasting Based on Projection Pursuit Auto-regression
Xiao-Yuan Wang, Hai-Hong Liu, and Zhi-Ping Liu
Shandong University of Technology, China

A18-02 (ICICIC-2006-0089)
Achieving Reliable Broadcasting in Ad Hoc Wireless Networks with Directional Antennas
Wei Kuang Lai, Chin-Shu Shieh, and Yi-Cheng Kuo
Sun Yat-sen University, Taiwan

A18-03 (ICICIC-2006-0272)
Comprehensive Computational Analysis on TCP in Satellite Links
Zhenyong Wang, Qing Guo, and Xuemai Gu
Harbin Institute of Technology, China

A18-04 (ICICIC-2006-0312)
Design and Implementation of Switches in Network Simulator (ns2)
Hongyun Zheng, Yongxiang Zhao, and Changjia Chen
Beijing Jiaotong University, China

A18-05 (ICICIC-2006-0436)
A New Routing Algorithm in Triple-based Hierarchical Interconnection Network
Baojun Qiao, Feng Shi, and Weixing Ji
Beijing Institute of Technology, China

A18-06 (ICICIC-2006-0442)
Projective Synchronization in Chaotic Dynamical Networks
Jie Liu, Jun-an Lu, and Qiang Tang
Wuhan University, China

A18-07 (ICICIC-2006-0455)
Research of Mobile Agent Based Network Topology Discovery
Chao Dong, Xiao-rong Cheng, and Ming-quan Zhang
North China Electric Power University, China

A18-08 (ICICIC-2006-0756)
Fully Pre-Splicing TCP for Web Switches
Yeim-Kuan Chang, Wen-Hsin Cheng, and Chung-Ping Young
Cheng Kung University, Taiwan

A18-09 (ICICIC-2006-0884)
Using Mobile Agents for Object Sharing in P2P Networks
Tainchi Lu and Mingchi Fu
Chiayi University, Taiwan

A18-10 (ICICIC-2006-0560)
SIP-based User-Oriented Seamless Handoff Architecture and Control Schemes
Hsu-Yang Kung and Chi-Yu Hsu
Pingtung University of Science and Technology, Taiwan
Keynote Speech B
Theme: Missing Data Imputation with Parameter Optimization
Speaker: Prof. Chengqi Zhang
University of Technology Sydney, Australia

Abstract

Missing data imputation is an actual yet challenging issue confronted by machine learning and data mining. Traditional missing value imputation techniques can be roughly classified into regression imputation (RI) and nearest neighbor imputation (NNI). Using a RI method, each of missing values in a dataset is replaced with the corresponding predicted value, possibly plus a random quantity. Using an NNI method, a missing value in a dataset is replaced with the corresponding known value of response variable in the nearest neighbor of the covariates in the dataset.

In this talk, we present some efficient imputation methods for dealing with missing data. They include a nonparametric random imputation, a semiparametric random imputation, a nonparametric random multi-imputation, and a clustering-based nonparametric random imputation. These imputation approaches are based on kernel functions, aiming at making an optimization inference on statistical parameters: mean, distribution function and quantile after missing-data is imputed.

Biography

Chengqi Zhang has been a Research Professor in Faculty of Information Technology at University of Technology, Sydney (UTS) since 2001. He received a PhD degree from the University of Queensland, Brisbane in Computer Science and a Doctor of Science (higher doctorate) degree from Deakin University, Australia. His research interests include Data Mining and Multi-Agent Systems. He has published about 100 refereed papers and three monographs, including a dozen of high quality papers in renown international journals, such as, Artificial Intelligence, Information Systems and IEEE/ACM Transactions. He has been invited to present four Keynote speeches in four international conferences before. He has been elected as Chairman ACS National Committee for Artificial Intelligence and Expert systems from 2006. He is a Senior Member of the IEEE Computer Society (IEEE), a member of Steering Committee of PRICAI (Pacific Rim International Conference on Artificial Intelligence) and PAKDD (Pacific-Asia Conference on Knowledge Discovery and Data Mining), serving as an Associate Editors for three international journals, including IEEE Transactions on Knowledge and Data Engineering, served as General Chair, PC Chair, or Organising Chair for six international Conferences and a member of Program Committees for many international or national conferences. His personal web page is at http://www-staff.it.uts.edu.au/~chengqi/.
Session B01 (Invited Session ICICIC-2006-IS07)
Session Title: Innovative Embedded Computing
Session Chair: Yuan-Long Jeang, Kaohsiung University of Applied Sciences, Taiwan
               Ming-Hwa Sheu, Yunlin University of Science and Technology, Taiwan

B01-01 (ICICIC-2006-IS07-001)
Design and Realization of Network Video Server Based on Single DSP
Qichang Duan, Yi Tang, and Congli Zhang
Chongqing University, China

B01-02 (ICICIC-2006-IS07-003)
A New Embedded Wavelet Image Coding Based on Zero-block and Array (N-EZBA) and Its Efficient Hardware Implementation
Yuan-Long Jeang, Ping-Shou Cheng, Jiun-Hau Tu, Kai-Jyun Liang, and Ching-Ta Chen
Kun Shan University, Taiwan

B01-03 (ICICIC-2006-IS07-004)
A New and Efficient Field-Partition Based Code Compression and Its Pipelined Decomposition System
Yuan-Long Jeang, Chih-Chung Tai, and Yong-Zong Lin
Kun Shan University, Taiwan

B01-04 (ICICIC-2006-IS07-005)
A New and Efficient Real-Time Address Tracer for Embedded Microprocessors
Yuan-Long Jeang, Ching-Ta Chen, and Chih-Chung Tai
Kun Shan University, Taiwan

B01-05 (ICICIC-2006-IS07-006)
A Methodology Based on Maximal-Profit Spanning Tree for Designing Application Specific Networks on Chip (ASNOC)
Yuan-Long Jeang, Chung-Wei Hung, and Chuen-Muh Chiang
Kun Shan University, Taiwan

B01-06 (ICICIC-2006-0078)
Design and Implementation of Flash File System in S3C44B0X Embedded system
Guo Peiyuan, Chen Wenhua, Bao Man, Chen Yan, and He Xiaoyan
Beijing Technology and Business University, China

B01-07 (ICICIC-2006-0501)
LSCIC Pre-processor design with Constriction Elucidation
Muhammad Kamran and Feng Shi
Beijing Institute of Technology, China

B01-08 (ICICIC-2006-0665)
The Hardware Implementation of a Multi-resolution Combined Fuzzy Min-Max Classifier Chip
Y. Liang, S. Q. Fan, and D. M. Jin
Tsinghua University, China

B01-09 (ICICIC-2006-0859)
Multiplierless Realization of Modified Comb Filter by Using Xilinx Spartan FPGAs
Go-An Rau and Meng-Xin Guo
Ching Yun University, Taiwan

B01-10 (ICICIC-2006-0381)
Hardware Implementation of Hash Function SHA-512
LI Hong-qiang and MIAO Chang-yun
Tianjin Polytechnic University, China
**Session B02 (Invited Session ICICIC-2006-IS08)**
Session Title: Information Sharing and Data/Text Mining and Discovery
Session Chair: Guifā Teng, Agricultural University of Hebei, China
Shilong Xue, Shanghai Maritime University, China

**B02-01 (ICICIC-2006-IS08-001)**
*Analysis and Extraction of Season Features in Natural Scenes for Retrieval*
Huang Kun and Lai Maosheng
Beijing Normal University, China

**B02-02 (ICICIC-2006-IS08-002)**
*Mining and Sharing Heterogeneous E-Marketing Intelligence – A Universal Metadata-based Approach*
Guifā Teng, Hong Su, Xiaodong Liu, and Tiger Wang
Agricultural University of Hebei, China

**B02-03 (ICICIC-2006-IS08-003)**
*Neural Networks for Scientific Paper Classification*
Mengjie Zhang, Xiaoying Gao, Minh Duc Cao, and Yuejin Ma
Victoria University of Wellington, New Zealand

**B02-04 (ICICIC-2006-IS08-004)**
*Improved Algorithm for Text Classification Based on TSVM*
Guifā Teng, Yihong Liu, Jianbin Ma, Fang Wang, and Huiting Yao
Agricultural University of Hebei, China

**B02-05 (ICICIC-2006-IS08-005)**
*Unsupervised SVM Based on p-kernels for Anomaly Detection*
Kunlun Li and Guifā Teng
Agricultural University of Hebei, China

**B02-06 (ICICIC-2006-IS08-006)**
*On Method and Automatic Construction Theory of Domain Ontology Based on Depended Text*
Liu Yao, Sui Zhifang, and Chen Xuefei
Peking University, China

**B02-07 (ICICIC-2006-0378)**
*SKG: Spatial Knowledge Discovery in Grid Environment*
Xiaosan Ge and Fuling Bian
Wuhan University, China

**B02-08 (ICICIC-2006-0409)**
*Selection of Materialized View Basing on Information Weight and Using Huffman-Tree on Spatial Data Warehouse*
Jing-Jing Li, Yao Wang, and Rui-Qiang Liu
Urumpqi National High-Tech Development Zone, China

**B02-09 (ICICIC-2006-0462)**
*The Study on Data Distribution Management Based on Petri Net*
Xianwen Fang, Yan Zhao, and Zhixiang Yin
Anhui University of Science and Technology, China

**B02-10 (ICICIC-2006-0463)**
*A Fault Diagnosis System Based on Data Fusion Algorithm*
Shilong Xue
Shanghai Maritime University, China
Session B03
Session Title: Pattern Recognition and Classification (I)
Session Chair: Hajime Murao, Kobe University, Japan
  Qiuqi Ruan, Beijing Jiaotong University, China

B03-01 (ICICIC-2006-0170)
KICA for Face Recognition based on Kernel Generalized Variance and Multiresolution Analysis
GaoYun An and Qiuqi Ruan
Beijing Jiaotong University, China

B03-02 (ICICIC-2006-0319)
Ocean Red Tide Recognizing Method Based Neural Network Ensembles
Wencang Zhao, Wei Wang, and Jin Li
Qingdao University of Science and Technology, China

B03-03 (ICICIC-2006-0344)
Measuring Source Code Similarity Using Reference Vectors
Asako Ohno and Hajime Murao
Kobe University, Japan

B03-04 (ICICIC-2006-0407)
A Novel Unsupervised Salient Region Segmentation for Color Images
Yu-Hsin Kuan, Shih-Ting Chen, Chung Ming Kuo, and Chaur-Heh Hsieh
I-Shou University, Taiwan

B03-05 (ICICIC-2006-0416)
A Speech Recognition System based on a Hybrid HMM/SVM Architecture
Zhi-Yi Qu, Yu Liu, Li-Hong Zhang, and Ming-Xin Shao
Lanzhou University, China

B03-06 (ICICIC-2006-0423)
Research on Automatic Speaker Recognition Based on Speech Clustering
Limin Xu, Bo Qian, Weiming Cheng, and Zhenmin Tang
Nanjing University of Science and Technology, China

B03-07 (ICICIC-2006-0448)
Wavelet-Based Feature Extraction and Recognition of Infrared Target
Quan Liu and Jianjun Zhang
Wuhan University of Technology, China

B03-08 (ICICIC-2006-0461)
Sampled Two-dimensional LDA for Face Recognition with One Training Image per Person
Hongtao Yin, Ping Fu, and Shengwei Meng
Harbin Institute of Technology, China

B03-09 (ICICIC-2006-0490)
The Application of Image Recognition into the Automatic Recognition System for Truck Cab Assembly Identifier
Hua Wang, Hudai Fu, and Wei Yang
Changchun Institute of Technology, China

B03-10 (ICICIC-2006-0649)
Fingerprint Identification Based on Frequency Texture Analysis
Juncao Li, Yong Zhang, Wenhai Kong and Xiamu Niu
Harbin Institute of Technology, China
**Session B04**
Session Title: Design and Implementation of Control Systems (III)
Session Chair: Der-Cherng Liaw, Chiao Tung University, Taiwan
Shuliang Lei, NASA Glenn Research Center, USA

**B04-01 (ICICIC-2006-0090)**
*Design of Universal Simulation Platform for Avionics*
Lianlei Lin and Shouda Jiang
Harbin Institute of Technology, China

**B04-02 (ICICIC-2006-0326)**
*The Multi-Objective Optimal Control for Servo System*
Qing Hu and Yiju Zhin
Guangdong University of Technology, China

**B04-03 (ICICIC-2006-0589)**
*Adaptive Backstepping Control for Flight Simulator*
Qingwei Wang, Zhenghua Liu, and Lianjie Er
Beijing University of Aeronautics and Astronautics, China

**B04-04 (ICICIC-2006-0869)**
*Negotiation of the Multi-underwater Glider System*
Shaoxuan Ren, Yu Zhang, and Changzheng Chen
Shenyang University of Technology, China

**B04-05 (ICICIC-2006-0284)**
*Study of Neuron Adaptive PID Controller in a Single-zone HVAC System*
Jiangjiang Wang, Youyin Jing, and Dawei An
North China Electric Power University, China

**B04-06 (ICICIC-2006-0957)**
*Hybrid CPM/CAM Physiotherapy Device by Use of Active Feedback Control Loop*
Hung-Jung Ho and Tien-Chi Chen
Cheng Kung University, Taiwan

**B04-07 (ICICIC-2006-1099)**
*Control Design for Longitudinal Flight Dynamics*
Der-Cherng Liaw, Wen-Ching Chung, and Chien-Shu Hsieh
Chiao Tung University, Taiwan

**B04-08 (ICICIC-2006-0018)**
*Real Time Digital Control of Magnetic Bearings with Microprocessors*
Shuliang Lei and Alan Palazzolo
NASA Glenn Research Center, USA

**B04-09 (ICICIC-2006-0333)**
*Iterative Learning Control with PI-PD and Smith Compensator for Batch Processes*
Yu-e Hu, Shuchen Li, and Chunyan Zhai
Liaoning University of Petroleum and Chemical Technology, China

**B04-10 (ICICIC-2006-0428)**
*The Study of Multivariable Grey Generalized Predictive Control*
Zhiwang Chen, Jianxiong Li, and Hongrui Wang
Yanshan University, China

**A04-06 (ICICIC-2006-1097)**
*An Approach to Estimate Domain of Attraction for Nonlinear Control Systems*
Der-Cherng Liaw and Ching-Hung Lee
Chiao Tung University, Taiwan
Session B05
Session Title: Fuzzy Systems and Applications (II)
Session Chair: Katsuari Kamei, Ritsumeikan University, Japan
                    Jyh-Horng Chou, Kaohsiung First University of Science and Technology, Taiwan

B05-01 (ICICIC-2006-0545)
A Proposal of Fuzzy Control System for Trailers Driven by Multiple Motors in Side Slipway to Launch and Pull Out Ships
Nyan Win Aung, Eric W. Cooper, Yukinobu Hoshino, and Katsuari Kamei
Ritsumeikan University, Japan

B05-02 (ICICIC-2006-0605)
Self-Organizing Fuzzy Clustering Neural Networks Controller for Robotic Manipulators
Yanjv Liu, Xuefeng Dai, and Yan Shi
Qiqihar University, China

B05-03 (ICICIC-2006-0646)
A Hybrid Deterministic Model Based on Rough set and Fuzzy set and Bayesian Optimal Classifier
Hongsheng Su and Quanzhan Li
Southwest Jiaotong University, China

B05-04 (ICICIC-2006-0718)
Study on State Feedback Fuzzy-predictive Control System of T-S Fuzzy Model
Shubin Wang, Pinhui Hu, and Li Lin
China University of Petroleum, China

B05-05 (ICICIC-2006-0792)
Integral Sliding Mode Controller Based on Fuzzy Logic for the Heading Control of the Submersible Vehicle
Xin Song, Jia-Wei Ye, and Li-Min Wu
South China University of Technology, China

B05-06 (ICICIC-2006-0798)
Fuzzy Control with Passivity Constraint for Discrete Affine T-S Fuzzy Systems
Wen-Jer Chang, Cheung-Chieh Ku, and Wei Chang
Taiwan Ocean University, Taiwan

B05-07 (ICICIC-2006-0834)
Study on Navigating Path Identification by Fuzzy Neural Network
Shouwen Ji, Hujuan Chen, Fang Xie, and Nan Zhang
Beijing Jiaotong University, China

B05-08 (ICICIC-2006-0919)
Realtime Scheduling for FMS Based on Fuzzy Logic
Yaguang Kong, Xiangxin Gong, and Jianzhong Wang
Hangzhou Dianzi University, China

B05-09 (ICICIC-2006-1053)
A Fuzzy Model for Bidding Behavior of Participants in Electricity Markets
Guilan Zhi and Shigeyoshi Watanabe
University of Electro-Communications, Japan

B05-10 (ICICIC-2006-1108)
Fuzzy Testing and Selecting the Better Manufacturing Process Using Loss-based Capability Index
B. M. Hsu and M. H. Shu
Kaohsiung University of Applied Sciences, Taiwan
Session B06
Session Title: Video Processing
Session Chairs: Weigang Zhang, Harbin Institute of Technology, China
                Siwei Luo, Beijing Jiaotong University, China

B06-01 (ICICIC-2006-0471)  
Improved Side-Information in Distributed Video Coding  
Lei Wei, Yao Zhao, and Anhong Wang  
Beijing Jiaotong University, China

B06-02 (ICICIC-2006-0384)  
Fast Inter Mode Selection Algorithm in MPEG-2-to-AVS Transcoder  
Zhen Han, Ruimin Hu, Li Zhu, Xinchen Zhang, and Qiong Liu  
Wuhan University, China

B06-03 (ICICIC-2006-0475)  
Construction of Semantic Network for Videos  
Fangshi Wang, De Xu, Hongli Xu, and Weixin Wu  
Beijing Jiaotong University, China

B06-04 (ICICIC-2006-0502)  
Adaptive Interpolation Algorithm for Real-time Image Resizing  
Jianping Xiao, Xuecheng Zou, Zhenglin Liu, and Xu Guo  
Huazhong University of Science and Technology, China

B06-05 (ICICIC-2006-0468)  
Performance Comparisons of Different Channel Codes in Distributed Video Coding  
Hao Wang, Yao Zhao, and Anhong Wang  
Beijing Jiaotong University, China

B06-06 (ICICIC-2006-0548)  
Simulation of Pedestrians in Computer Animation  
Zhen Liu  
Ningbo University, China

B06-07 (ICICIC-2006-0582)  
Target Tracking in Infrared Image Sequences Using Diverse AdaBoostSVM  
Zhenyu Wang, Yi Wu, Jinqiao Wang, and Hanqing Lu  
Chinese Academy of Sciences, China

B06-08 (ICICIC-2006-0601)  
A Model of Space and Object-based Attention for Visual Saliency  
Jingjing Zhong and Siwei Luo  
Beijing Jiaotong University, China

B06-09 (ICICIC-2006-0426)  
Multiple Description Video Coding Based on Lattice Vector Quantization  
Huihui Bai and Yao Zhao  
Beijing Jiaotong University, China

B06-10 (ICICIC-2006-0633)  
Efficient Wavelet Zero-Tree Video Coding Based on Wyner-Ziv Coding and Lattice Vector Quantization  
Anhong Wang, Yao Zhao, and Jing Li  
Beijing Jiaotong University, China
Session B07 (Invited Session ICICIC-2006-IS09)
Session Title: Emerging Approaches to Pervasive Applications
Session Chair: Bao Rong Chang, Taitung University, Taiwan
Kiyoshi Nosu, Tokai University, Japan

B07-01 (ICICIC-2006-IS09-001)
Regularizing BWGC/NGARCH Model by Quantum Minimization
Bao Rong Chang, Hsiu Fen Tsai, Shi Huang Chen, Yu-Chang Chen, and Yu-Kuo Tseng
Taitung University, Taiwan

B07-02 (ICICIC-2006-IS09-005)
Applying Grey Forecasting Model on the Investment Performance of Markowitz Efficiency Frontier: A Case of the Taiwan Securities Markets
Alex Kung-Hsiung Chang and Jen-Der Kung
Pingtung University of Science and Technology, Taiwan

B07-03 (ICICIC-2006-IS09-006)
Finding Point Correspondence Using Local Similarity and Global Constraint
Jen-Hui Chuang, Jau-Hong Kao, and Chien-Chou Lin
Chiao Tung University, Taiwan

B07-04 (ICICIC-2006-IS09-008)
ID-Based PPM for IP Traceback
Yu-Kuo Tseng, Yi-You Lu, Jen-Yi Huang, Wen-Shyong Hsieh, Bao-Rong Chang, Yu-Chang Chen, and Shi-Huang Chen
Shu-Te University, Taiwan

B07-05 (ICICIC-2006-IS09-009)
Identification and Analysis of P2P Traffic - An Example of BitTorrent
Mong-Fong Horng, Chun-Wei Chen, Chin-Shun Chuang, and Cheng-Yu Lin
Shu Te University, Taiwan

B07-06 (ICICIC-2006-IS09-010)
Image Classification using a Module RBF Neural Network
Chuan-Yu Chang and Shih-Yu Fu
Yunlin University of Science and Technology, Taiwan

B07-07 (ICICIC-2006-0429)
A Multi-Modal Emotion-Diagnosis System to Support e-Learning
Kiyoshi Nosu and Tomoya Kurokawa
Tokai University, Japan

B07-08 (ICICIC-2006-0364)
DDD Method Based on Joint Target Cancellation for Circular Array Antennas
Wenchong Xie and Yongliang Wang
Wuhan Radar Academy, China

B07-09 (ICICIC-2006-0393)
Equivalent Transformation Rules as Components of Programs
Hiroshi Mabuchi, Kiyoshi Akama, and Toshihiro Wakatsuki
Iwate Prefectural University, Japan

B07-10 (ICICIC-2006-0408)
Fault-Tolerant Mutually Independent Hamiltonian Cycles Embedding on Hypercubes
Sun-Yuan Hsieh
Cheng Kung University, Taiwan
Session B08 (Invited Session ICICIC-2006-IS11)
Session Title: Fuzzy Reasoning and Its Applications
Session Chair: Hirofumi Sasaki, Kyushu Tokai University, Japan
Hugang Han, Prefectural University of Hiroshima, Japan

B08-01 (ICICIC-2006-IS11-001)
Pattern Recognition Based on Relative Position of Local Features Using Self-Organizing Map
Keiichi Horio, Akira Aikawa, and Takeshi Yamakawa
Kyushu Institute of Technology, Japan

B08-02 (ICICIC-2006-IS11-002)
The New Estimation Method of Collision Possibility of Approaching Object by Using Fuzzy Inference with Image Features
Masaaki Iwasaki and Takeshi Yamakawa
Kyushu Institute of Technology, Japan

B08-03 (ICICIC-2006-IS11-003)
An Implementation of the Neuro-fuzzy Inference Circuit
Kuniaki Fujimoto, Hirofumi Sasaki, Yoichiro Masaoka, Ren-Qi Yang, and Masaharu Mizumoto
Kyushu Tokai University, Japan

B08-04 (ICICIC-2006-IS11-004)
Fuzzy Controller Stuck to Experts' Views
Hugang Han
Prefectural University of Hiroshima, Japan

B08-05 (ICICIC-2006-IS11-005)
Autopilot Design Based on Fuzzy Logic and Genetic Algorithm
Xionghui Lu, Jianqiang Yi, and Dongbin Zhao
Chinese Academy of Sciences, China

B08-06 (ICICIC-2006-IS11-006)
A Fuzzy-based Drawing-aid System to Smooth Out Involuntary Hand Motions
Kei Eguchi, Hongbing Zhu, and Fumio Ueno
Shizuoka University, Japan

B08-07 (ICICIC-2006-IS11-007)
An Imitation Method of Human Action Intelligence
Tao Shang and Shuoyu Wang
Shenyang University of Technology, China

B08-08 (ICICIC-2006-IS11-008)
A Health Check and Prediction System for Lifestyle-Related Disease Prevention
Xia Yu and Shuoyu Wang
Shenyang University of Technology, China

B08-09 (ICICIC-2006-IS11-009)
Calculus of Interpolated Fuzzy Relation Type Fuzzy Reasoning Method
Manabu Shimakawa
Kumamoto National College of Technology, Japan

B08-10 (ICICIC-2006-IS11-010)
The Human Visual Recognition Ability for Incomplete Letters
Yinlai Jiang and Shuoyu Wang
Kochi University of Technology, Japan

B08-11 (ICICIC-2006-IS11-011)
Measurement of Functional Auditory Intelligence in Humans
Di Miao and Shuoyu Wang
Kochi University of Technology, Japan
Session B09
Session Title: Signal Processing (I)
Session Chairs: Mingyi He, Northwestern Polytechnical University, China
Yao Zhao, Beijing Jiaotong University, China

B09-01 (ICICIC-2006-0163)
A New Hybrid PDE Denoising Model Based on Markov Random Field
Ji-Ying Wu and Qiu-Qi Ruan
Beijing Jiaotong University, China

B09-02 (ICICIC-2006-0167)
AVS Digital Audio Processing Technology
Cong Zhang, Rui-Min Hu, and Hao-Jun Ai
Wuhan University, China

B09-03 (ICICIC-2006-0219)
Extracting Lip Parameters in Speech Synthesis System Driven by Visual-speech
Gang Li, Mengjun Wang, and Ling Lin
Tianjin University, China

B09-04 (ICICIC-2006-0261)
Interactive PC Texture-Based Volume Rendering for Large Datasets
Jie Zheng, Hongbing Ji, and Wanhai Yang
Xidian University, China

B09-05 (ICICIC-2006-0267)
An Adaptive Implementation of the Kernel-Based Object Tracking Method
Muyun Weng, Mingyi He, and Yifan Zhang
Northwestern Polytechnical University, China

B09-06 (ICICIC-2006-0205)
High Squint SAR Processing Using Modified Extended Chirp Scaling
Shizhong Duan and Junxian Li
Tsinghua University, China

B09-07 (ICICIC-2006-0362)
A New Transform with Extended Product to Exploit Different Scale Redundance
Zhiyuan Zhang and Yao Zhao
Beijing Jiaotong University, China

B09-08 (ICICIC-2006-0420)
A Fast Algorithm for the Quasi-Synchronous Window
Xiaofeng Yuan, Shuhong Chen, Hualong Xu, and Zhijie Zhou
Xi’an High-Tech Institute, China

B09-09 (ICICIC-2006-0486)
An Effective Array for 2-D Direction-of-Arrival Estimation
Maohui Xia, Cai Liu, Ruiyan Du, and Jin Li
Yanshan University, China

B09-10 (ICICIC-2006-0443)
On the Blind SNR Estimation for IF Signals
Dan Sui and Lindong Ge
Information Engineering University, China

C03-08 (ICICIC-2006-1072)
Optimal Filtering for Systems with Unknown Inputs via a Parametrized Minimum-Variance Filter
Chien-Shu Hsieh
Ta Hwa Institute of Technology, Taiwan
Session B10
Session Title: Neural Networks and Applications
Session Chairs: Mengjie Zhang, Victoria University of Wellington, New Zealand
Yuanchun Li, Jilin University, China

B10-01 (ICICIC-2006-0142)
Harmonic Detection based Hopfield Neural Network Optimum Algorithm
Yu Zou and Ping Wang
Tianjin University, China

B10-02 (ICICIC-2006-0150)
A Novel BP Algorithm Based on Self-adaptive Parameters and Performance Analysis
Haibin Cai, Liangxu Liu, and Qiying Cao
Donghua University, China

B10-03 (ICICIC-2006-0193)
Robust Neural Networks Compensating Motion Control of Reconfigurable Manipulator
Ying Li and Yuanchun Li
Jilin University, China

B10-04 (ICICIC-2006-0268)
A Neural Network Based Electrical Loss Prediction of Bare Overhead ACSR Conductors
Fang Liu, Raymond D. Findlay, and Qiang Song
McMaster University, Canada

B10-05 (ICICIC-2006-0564)
Cooperative Cutting Work for Two 2-dof Robots with RNN Model
Yingda DAI, Masami KONISHI, and Jun IMAI
Okayama University, Japan

B10-06 (ICICIC-2006-0567)
The Method of Soft Sensing Based on RBF Neural Network and Intelligent Control for Sewage Disposal Process
Zaiwen Liu, Lifeng Cui, Xiaojin Lian, Cuiling Liu, and Chaozhen Hou
Beijing Technology and Business University, China

B10-07 (ICICIC-2006-0587)
Research on the Non-destructive Testing Method of Pod Based on Neural Networks
Guangyou Yang, Guozhu Zhou, Xianli Luo, and Xinming Hu
Hubei University of Technology, China

B10-08 (ICICIC-2006-0677)
Design of RBF Neural Synchronous Controller with PID Compensation for a Class of Unknown Chaotic System
Xinyu Wang, Junwei Lei, and Yigao Deng
Yantai University, China

B10-09 (ICICIC-2006-0753)
A Multiple-Instance Neural Networks based Image Content Retrieval System
Shun-Chin Chuang, Yeong-Yuh Xu, Hsin Chia Fu, and Hsiang-Cheh Huang
Chiao-Tung University, Taiwan

B10-10 (ICICIC-2006-0374)
Chaotic BP Neural Network Based Case Retrieval Method
Chun-Guang Chang, Ding-Wei Wang, and Ya-Chen Liu
Shenyang Jianzhu University, China
Session B11
Session Title: Communication and Computer Networks
Session Chairs: Dongfeng Yuan, Shandong University, China
Sung-Tsun Shih, Cheng-Shiu University, Taiwan

B11-01 (ICICIC-2006-0612)
Design and Analysis of a Fully Non-blocking Quantum Switch
Chuan-Ching Sue, Wei-Ren Chen, and Chin-Yu Huang
Cheng Kung University, Taiwan

B11-02 (ICICIC-2006-0648)
Cooperative Limiting Localization Schemes for Wireless Sensor Networks
Wenping Chen
Renmin University of China, China

B11-03 (ICICIC-2006-0706)
Mining Unstructured Web Pages to Enhance Web Information Retrieval
Hsin-Chang Yang and Chung-Hong Lee
Chang Jung University, Taiwan

B11-04 (ICICIC-2006-0785)
Dynamic Data Scheduling and Resource Management Using Max-utility Estimation in Next Generation Wireless Networks
Kunqi Guo, Lixin Sun, Shilou Jia, and Mingji Yang
Harbin Institute of Technology, China

B11-05 (ICICIC-2006-0058)
Signal Propagation on Three Phases Power Distribution Lines as Communications Channels for Intelligent Systems
Mingyue Zhai and Qing-An Zeng
North China Electric Power University, China

B11-06 (ICICIC-2006-0277)
Performance of MC-CDMA Based on Feedback Pre-equalization Method in Uplink Channel
Xiao-Peng Yang, Hao-Shan Shi, and Yao-Kun
Northwestern Polytechnical University, China

B11-07 (ICICIC-2006-0336)
A Novel Two-Relay Collaborative Multihop Inter-Vehicle Communication Systems
Xiaojian Xu, Qingmin Meng, and Hanying Hu
Information Engineering University, China

B11-08 (ICICIC-2006-0987)
Improved Anti-collision Scheme for High Speed Identification in RFID System
Tae-Wook Hwang, Byong-Gyo Lee, Young Soo Kim, Doug Young Suh, and Jin Sang Kim
KyungHee University, Korea

B11-09 (ICICIC-2006-1037)
An Improvement Approach of Indoor Location Sensing Using Active RFID
Sung-Tsun Shih, Kunta Hsieh, and Pei-Yuan Chen
Cheng-Shiu University, Taiwan

B11-10 (ICICIC-2006-0515)
Image Transmission in LDPC Coded Mobile Satellite Communication Systems
Yuling Zhang and Dongfeng Yuan
Shandong University, China
Session B12
Session Title: Management in Business and Industry
Session Chairs: Ming-Hung Shu, Kaohsiung University of Applied Sciences, Taiwan
Jui-Fang Chang, Kaohsiung University of Applied Sciences, Taiwan

B12-01 (ICICIC-2006-1027)
Optimal Portfolio with Consumption Choice under Jump-diffusion Process
Shuping Wan
Jiangxi University of Finance and Economic, China

B12-02 (ICICIC-2006-1109)
Service Quality Design via Fuzzy Approach
Jung-Fung Chen
Kaohsiung University of Applied Sciences, Taiwan

B12-03 (ICICIC-2006-0495)
Kernel-SOM Based Visualization of Financial Time Series Forecasting
Dong-Jun Yu, Yong Qi, Yong-Hong Xu, and Jing-Yu Yang
Nanjing University of Science and Technology, China

B12-04 (ICICIC-2006-0435)
Batch Process Fault Diagnosis Based on Fuzzy Petri Nets
Zhenjuan Liu, Bo Pan, and Hongguang Li
Beijing University of Chemical Technology, China

B12-05 (ICICIC-2006-0853)
Analysis on Appearance Reasons of the Positive Feedback Traders
Shi An, Lei Wang, and He Huang
Harbin Institute of Technology, China

B12-06 (ICICIC-2006-1111)
Design of One-sided Screening Specifications for Multi-characteristic Product
Hui-Chung Yeh, Hsien-Tang Tsai, and Min-Chun Yu
Kaohsiung University of Applied Sciences, Taiwan

B12-07 (ICICIC-2006-0048)
A Conceptual Framework for Product Lifecycle Modeling
Wenlei Zhang and Yushun Fan
Chinese Academy of Science, China

B12-08 (ICICIC-2006-0895)
Discrete-time Risk Measures on General Probability Space
Shi An, Jian Sun, and Yan Wang
Harbin Institute of Technology, China

B12-09 (ICICIC-2006-0777)
Comparing Personal Portfolio Strategies by Genetic Algorithm Mixed with Association Rules
Jui-Fang Chang
Kaohsiung University of Applied Sciences, Taiwan

B12-10 (ICICIC-2006-0386)
The Approximate Shortest Distance Route Intelligent System for Traveling in Taiwan
Chin-Jung Huang and Ying-Hong Lin
St. John's University, Taiwan
Session B13 (Invited Session ICICIC-2006-IS12)
Session Title: Text Mining and Multimedia Data Mining Techniques and Applications
Session Chair: Chung-Hong Lee, Kaohsiung University of Applied Sciences, Taiwan
               Hou-Kuan Huang, Beijing Jiaotong University, China

B13-01 (ICICIC-2006-IS12-001)
A Novel Multilingual Text Categorization System Using Latent Semantic Indexing
Chung-Hong Lee, Hsin-Chang Yang, and Sheng-Min Ma
Kaohsiung University of Applied Sciences, Taiwan

B13-02 (ICICIC-2006-IS12-002)
A Web-Based Database Management System Supporting Parallel Data Mining Service on PC Cluster
Tyng-Yeu Liang, Siou-Ying Wang, and Liang-I Chang
Kaohsiung University of Applied Sciences, Taiwan

B13-03 (ICICIC-2006-IS12-004)
A Comparative Study on Supervised and Unsupervised Learning Approaches for Multilingual Text Categorization
Chung-Hong Lee, Hsin-Chang Yang, Ting-Chung Chen, and Sheng-Min Ma
Kaohsiung University of Applied Sciences, Taiwan

B13-04 (ICICIC-2006-IS12-005)
Reduction of RLC Tree Delay Using Bidirectional Buffer Repeater Insertion
Trong-Yen Lee, Yang-Hsin Fan, and Chia-Chun Tsai
Taipei University of Technology, Taiwan

B13-05 (ICICIC-2006-IS12-006)
A Cluster-based Method for Mining Generalized Fuzzy Association Rules
Hung-Pin Chiu, Yi-Tsung Tang, and Kun-Lin Hsieh
Nan Hua University, Taiwan

B13-06 (ICICIC-2006-IS12-007)
FPU Recurrence in the KdV-type Equations
Yung-Ming Chang, Juan-Ming Yuan, and Chin-Chieh Chiang
Taitung University, Taiwan

B13-07 (ICICIC-2006-IS12-008)
Using Genetic Algorithm to Improve the Performance of Speech Recognition Based on Artificial Neural Network
Min-Lun Lan, Shing-Tai Pan, and Chih-Chin Lai
Shu-Te University, Taiwan

B13-08 (ICICIC-2006-IS12-010)
Applications of Multi-objective Evolutionary Algorithms to Cluster Tool Scheduling
Jia-Ying Tzeng, Tung-Kuan Liu, and Jyh-Horng Chou
Kaohsiung First University of Science and Technology, Taiwan

B13-09 (ICICIC-2006-0743)
Research and Application of Spatio-temporal Data Mining Based on Ontology
Wei Xu and Hou-Kuan Huang
Beijing Jiaotong University, China

B13-10 (ICICIC-2006-0793)
Clustering Validity Based on the Improved Hubert I’ Statistic and the Separation of Clusters
Heng Zhao, Jimin Liang, Hailong Hu
Xidian University, China
Session B14 (Invited Session ICICIC-2006-IS13)
Session Title: Nagoya University 21st Century COE Program on Media Integration for Intelligent Transport Systems
Session Chair: Jien Kato, Nagoya University, Japan
Zhenfeng Zhu, Beijing Jiaotong University, China

B14-01 (ICICIC-2006-IS13-001)
Raindrop Detection from In-vehicle Video Camera Images for Rainfall Judgment
Hiroyuki Kurihara, Tomokazu Takahashi, Yoshito Mekada, Ichiro Ide, Hiroshi Murase, Yukimasa Tamatsu, and Takayuki Miyahara
Nagoya University, Japan

B14-02 (ICICIC-2006-IS13-002)
Visibility Estimation in Foggy Conditions by In-vehicle Camera and Radar
Kenji Mori, Terutoshi Kato, Tomokazu Takahashi, Ichiro Ide, Hiroshi Murase, Takayuki Miyahara, and Yukimasa Tamatsu
Nagoya University, Japan

B14-03 (ICICIC-2006-IS13-003)
Characterizing in-car Conversational Speech of Different Dialogue Modes
Hiroshi Fujimura, Chiyomi Miyajima, Nobuo Kawaguchi, Katunobu Itou, Kazuya Takeda, and Fumitada Itakura
Nagoya University, Japan

B14-04 (ICICIC-2006-IS13-004)
A Reliable Routing Algorithm with Real Time and Historical Information
Jiang Qian YING and Jien KATO
Gifu University, Japan

B14-05 (ICICIC-2006-IS13-005)
Discussion Support System for Video-oriented Sports Meetings
Kosuke Akune, Kenji Mase, Yasushi Hirano, and Shoji Kajita
Nagoya University, Japan

B14-06 (ICICIC-2006-0074)
Multiphase Adaptive Fuzzy Control for Intelligent Transportation System
MA Wen-ge
Dalian Maritime University, China

B14-07 (ICICIC-2006-0049)
Fault Tolerant Control for Transportation System of Coal Port
Wei Gu and Jianxin Chu
Shanghai Maritime University, China

B14-08 (ICICIC-2006-0773)
Multiple Probabilistic Templates Based Pedestrian Detection in Night Driving with a Normal Camera
Mei Hu
Tsinghua University, China

B14-09 (ICICIC-2006-1110)
Multi-Scale Analysis of Odd Gabor Transform for Edge Detection
Zhenfeng Zhu, Hanqing Lu, and Yao Zhao
Beijing Jiaotong University, China

B14-10 (ICICIC-2006-0109)
The Dynamic Grey Radial Basis Function Prediction Model and its Applications
Jingling Yuan, Luo Zhong, and Yang Yu
Wuhan University of Technology, China
Session B15
Session Title: Design and Implementation of Control Systems (IV)
Session Chairs: Shaocheng Tong, Liaoning Institute of Technology, China
Der-Cherng Liaw, Chiao Tung University, Taiwan

B15-01 (ICICIC-2006-0922)
The Estimation of Exponential Decay about a Kind of Wave Equation with Boundary Feedback Control
Jia Jun-guo, Yang Song-hua, and Wang Mian-sen
Xi’an Jiao-Tong University, China

B15-02 (ICICIC-2006-0929)
Study on Intelligent Control Integrated System of China
Yin Zhu, Junli Wang, Dalin Qian, and Tingjie Han
Chinese People’s Public Security University, China

B15-03 (ICICIC-2006-0960)
The Parametrization for the Class of All Proper Stabilizing Controllers for Multiple-Input/Multiple-Output Minimum Phase Systems
Kou Yamada, Keiji Satoh, and Yeju Mei
Gunma University, Japan

B15-04 (ICICIC-2006-0968)
Optimal Control of Nonholonomic Motion Planning for a Free-Falling Cat
Xin-Sheng Ge and Qi-Zhi Zhang
Beijing Institute of Machinery, China

B15-05 (ICICIC-2006-1081)
A Higher-Order Stabilizability Condition for a Class of Switched Systems
Yew-Wen Liang, Sheng-Dong Xu, and Chia-Chen Chiang
Chiao Tung University, Taiwan

B15-06 (ICICIC-2006-1106)
A Variable Structure Model Reference Adaptive Controller, For SIMO Systems
Ardeshir Karami Mohammadi
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Yufeng Zhao, Yao Zhao, and Zhenfeng Zhu
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Hung-Chun Lee, Jiann-Shu Lee, Mark Chii-Jeng Lin, Chia-Hsiang Wu and Yung-Nien Sun
Cheng Kung University, Taiwan

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Ming-Ni Wu, Chia-Chen Lin, and Chin-Chen Chang
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Chin-Chen Chang and Tzu-Chuen Lu
Feng Chia University, Taiwan

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University of Wollongong, Australia

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Rong Lu and Yi Shen
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Qingwu Li and Chunyuan He
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Ching-Tang Hsieh, Eugene Lai, Ping-Da Yang and Yen-Liang Chen
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Jiying Zhao, Robert Laganiere, and Zheng Liu
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Haiquan Zhao, Jiashu Zhang, Mingyuan Xie, and Xiangping Zeng
Chengdu University of Information Technology, China

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Huiyu Wang, Qinyu Zhang, Naitong Zhang, and Xuejun Sha
Harbin Institute of Technology, China

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Chung-Ren Yan, Tong-Yee Lee, and Chao-Hung Lin
Cheng-Kung University, Taiwan

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Shuxue Ding
The University of Aizu, Japan

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Chian C. Ho and Chi-Wei Chen
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Yuichi Ueda, Minako Hirota, and Tadashi Sakata
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Peng Li, Yong Guan, Bo Xu, and Wenju Liu
Chinese Academy of Sciences, China

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Mangui Liang, Qi Hu, and Shouzeng Huang
Beijing Jiaotong University, China
**Keynote Speech C**

Theme: Knowledge Acquisition Tool Established by Data with Their Evaluation – SOR Network –

Speaker: Prof. Takeshi Yamakawa

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**Abstract**

Human experts can model the outer events in their brain by watching the behavior of the system of interest. Many data of cause-and-result relationship are summarized to acquire the knowledge which is utilized for effective inference. The knowledge is represented in the form of a set of IF-THEN rules and each one includes fuzzy linguistic terms to obtain the smaller number of IF-THEN rules than the number of raw data, which was expected by Lotfi A. Zadeh (1965).

A human brain facilitates the topological mapping of the external complex information (multiple-dimensional) to the cortex (two-dimensional) by sensing and watching. The topological mapping was modeled as SOM (Self-Organizing Maps) by Teuvo Kohonen (1982), which enables the vector quantization and the reduction of multiple dimension of information to one or two dimensions (visualization of similarities). Since the SOM visualizes, on the competitive layer, the similarity of raw information, it can be utilized in the field of pattern classification, data analysis, and so on. However, it cannot model the input-output characteristics of the system of interest, that is, it cannot represent the knowledge of a human expert.

In order to squeeze out the essence from the data set with evaluation obtained by trial and error, the novel modeling tool was developed by the author (1999), which is the extension of SOM and in which the input-output relationship of the system is mapped onto the competitive layer. The system is named as self-organizing relationship network (SOR network). A set of units on the competitive layer of the SOR network after learning exhibits a set of typical input-output characteristics of the system of interest and thus the network achieves the knowledge acquisition (IF-THEN rules) from the raw data with evaluation.

The evaluation for each data necessary for the learning of the SOR network is possibly intuitive and deterministic. This paper presents three applications of SOR network, (1) image enhancement of photograph as intuitive evaluation, (2) power system stabilizer as deterministic evaluation and (3) trailer-truck back-up control as deterministic evaluation.

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**Biography**

Prof. Takeshi Yamakawa is a professor of Graduate School of Life Science and Systems Engineering, Kyushu Institute of Technology (KIT), Japan. He established a foundation, Fuzzy Logic Systems Institute (FLSI), in Japan in 1990 in order to promote the international collaboration on fuzzy logic, neural networks and other soft computing, which are the new paradigms to realize the advanced intelligent systems. He is also the chairman of FLSI. His main research interest lies on hardware implementation of fuzzy systems, fuzzy neural networks, chaotic systems and self-organizing systems. He is currently working as the project leader of the Center of Excellence entitled “World of Brain Computing Interwoven out of Animals and Robots”.

Prof. Yamakawa plays Karate (Japanese traditional martial arts) and possesses a black belt (5th Dan). And he likes swimming, horse riding and monocycle as well. His interest also lies on Shakuhachi and Sangen, which are Japanese traditional musical instruments.
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Haitao Qu, Lin Qi, Xiaomin Mu, and Shouyi Yang
Zhengzhou University, China

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Yi Xin, Ran Tao, and Yue Wang
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Xin Zhao, Fengxia Li, Shouyi Zhan, and Zhisheng Li
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Suk-Ling Li, Kai-Chi Leung, L.M. Cheng, and Chi-Kwong Chan
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Suk-Ling Li, Kai-Chi Leung, L.M. Cheng, and Chi-Kwong Chan
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Xunzhan Zhu, Anthony T. S. Ho, and Pina Marziliano
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Feng Chia University, Taiwan

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Shinfeng D. Lin, Yu-Chan Kuo and Yu-Hsun Huang
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Lanzhou University of Technology, China

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Yuegang Wang
Xi’an Research Inst. of Hi-Tech, China

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Vesa Hasu, Heikki Koivo, and Jani Poutiainen
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Davy De Schrijver, Wesley De Neve, Davy Van Deursen, Jan De Cock, and Rik Van de Walle
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Hsu-Yang Kung and Ching-Yu Lin
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Xuefeng Dai, Dan Lv, Shudong Liu, and Yan Shi
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Yaguang Kong, Siyu Guo, and Jianzhong Wang
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Xinghong Kuang and Huihe Shao
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Bidi Ying, Huifang Chen, Wendao Zhao, and Peiliang Qiu
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Xiaoan Shi, Xingshe Zhou, and Huaxin Yao
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Jun Qiu and Guangzhou Zhao
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Fujiang Jin and Lan Wang
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Wenhong Zhao and Feng Xia
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Y. B. Chen and Oscal T.-C. Chen
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Chun-Hua Chen, Jinn-Ke Jan, and Chao-Hsing Hsu
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Huazhong University of Science and Technology, China

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Timetable Scheduling Using Particle Swarm Optimization
Shu-Chuan Chu, Yi-Tin Chen, and Jiun-Huei Ho
Cheng-Shiu University, Taiwan

C08-10 (ICICIC-2006-0149)
Optimize Control of the Metro Bogie Test Platform add-load system based on GA
Wei Fu and Jinwen Zhang
Huaihai Institute of Science and Technology, China
Session C09
Session Title: Pattern Recognition and Classification (III)
Session Chairs: Yunde Jia, Beijing Institute of Technology, China
Weibin Zhu, Beijing Jiaotong University, China

C09-01 (ICICIC-2006-0230)
Object Decomposition based on Superellipses
Wu-Chih Hu
Penghu University, Taiwan

C09-02 (ICICIC-2006-0812)
A New Information Combination Approach for Character Recognition with a Limited Lexicon
Xianmei Wang, Yang Yang, and Kang Huang
Beijing University of Science and Technology, China

C09-03 (ICICIC-2006-0820)
A Key Frame Selection-Based Facial Expression Recognition System
Cheng-Kung University, Taiwan

C09-04 (ICICIC-2006-0860)
Supervised Isomap with Explicit Mapping
Chung-Guang Li and Jun Guo
Beijing University of Posts and Telecommunications, China

C09-05 (ICICIC-2006-0871)
Dynamic Minimum Subband Spectral Subtraction and Its Application in Robust Speech Recognition
Xin Ma and Yuhua Peng
Chinese Academy of Sciences, China

C09-06 (ICICIC-2006-0880)
Ear Recognition Based on Statistical Shape Model
Lu Lu, Xiaoxun Zhang, Youdong Zhao, and Yunde Jia
Beijing Institute of Technology, China

C09-07 (ICICIC-2006-0896)
Research on Symbol Recognition for Mathematical Expressions
Xue-Dong Tian, Hai-Yan Li, Xin-Fu Li, and Li-Ping Zhang
Hebei University, China

C09-08 (ICICIC-2006-0913)
A Robust Speech Recognition Based on the Feature of Weighting Combination ZCPA
Xueying Zhang and Wuzhou Liang
Taiyuan University of Technology, China

C09-09 (ICICIC-2006-0939)
A Novel Joint De-Interleaving/Recognition System of Radar Pulse Sequence
Qiang Guo, Xingzhou Zhang, and Zheng Li
Harbin Engineering University, China

C09-10 (ICICIC-2006-1000)
Non-Alignment Fingerprint Matching Based on Local and Global Information
Xuying Zhao, Yangsheng Wang, Jin Qi, and Xiaolong Zheng
Chinese Academy of Sciences, China
Session C10
Session Title: Intelligent Systems
Session Chair: Hsiang-Cheh Huang, Kaohsiung Marine University
Jian Yu, Beijing Jiaotong University, China

C10-01 (ICICIC-2006-0891)
Efficient Improvement of FT-tree Based Frequent Itemsets Mining Algorithms
Yong Qiu and Yong-Jie Lan
Shandong Institute of Business and Technology, China

C10-02 (ICICIC-2006-0220)
An Agent-Based Adaptive Learning System (ABALS)
Tianyun Chen and Jianping Zhang
Zhejiang Normal University, China

C10-03 (ICICIC-2006-0878)
Stability Analysis of Large-Scale Agent-Based Systems
Ali A. Jamshidifar and Ahmad Afshar
AmirKabir University of Technology, Iran

C10-04 (ICICIC-2006-0979)
Research on Multi-agent System Model of Diesel Engine Fault Diagnosis by Case-based Reasoning
Chunhua Zhao, Xinze Zhao, Zongqi Tan, and Xinping Yan
China Three Gorges University, China

C10-05 (ICICIC-2006-0262)
Bayesian Networks for Intelligent Decision of Airborne Weapon System
Bo Li and Xiaoguang Gao
Northwestern Polytechnical University, China

C10-06 (ICICIC-2006-0273)
An Innovation Filtering Multiple Model Algorithm for Integrated Navigation System
Rong-Chun Zang and Ping-Yuan Cui
Harbin Institute of Technology, China

C10-07 (ICICIC-2006-0899)
An Ontology Learning Model in Grid Information Services
He Hu and Xiaoyong Du
Renmin University of China, China

C10-08 (ICICIC-2006-0269)
An Affective Intelligent Tutoring System Based on Artificial Psychology
Xiangjie Qiao, Zhiliang Wang, Jun Yu, and Xiuyan Meng
Beijing University of Science & Technology, China

C10-09 (ICICIC-2006-0762)
Distributional Similarity in the Varied Order of Syntactic Spaces
Dongqiang Yang and David M.W. Powers
Flinders University of South Australia, Australia

C10-10 (ICICIC-2006-0879)
Bilingual Phrase Extraction from N-Best Alignments
Yong-Zeng Xue, Sheng Li, Tie-Jun Zhao, Mu-Yun Yang, and Jun Li
Harbin Institute of Technology, China
Session C11
Session Title: Neural Networks / Support Vector Machines
Session Chair: Weibin Liu, Beijing Jiaotong University, China
Chuan-Yu Chang, Yulin University of Science and Technology

C11-01 (ICICIC-2006-0822)
Neural Network Based Diagnosis Method for Looper Height Controller of Hot Strip Mills
Yoshihiro Abe, Masami Konishi, and Jun Imai
Okayama University, Japan

C11-02 (ICICIC-2006-0841)
Information Geometry Approach to the Model Selection of Neural Networks
Ziang Lv, Siwei Luo, Yunhui Liu, and Yu Zheng
Beijing Jiaotong University, China

C11-03 (ICICIC-2006-0855)
Neural Network Optimization for Hardware-Software Partitioning
Tianyi Ma, Xinglan Wang, and Zhiquang Li
Harbin University of Commerce, China

C11-04 (ICICIC-2006-1062)
Neural Network Ensemble Based Ant Colony Classification Rule Mining
Chuan Chen, Youqing Chen, and Junbing He
Sun Yat-sen University, China

C11-05 (ICICIC-2006-1095)
Neural Network Approach to Vibration Feature Selection and Multiple Fault Detection for Mechanical Systems
Keming Wang
Shenyang Institute of Aeronautical Engineering, China

C11-06 (ICICIC-2006-0817)
Load Forecasting Based on Chaotic Support Vector Machine with Incorporated Intelligence Algorithm
Jingmin Wang and Guoqiao Ren
North China Electric Power University, China

C11-07 (ICICIC-2006-0857)
A Support Vector Machine training Algorithm based on Cascade Structure
Zhongwei Li
NanKai University, China

C11-08 (ICICIC-2006-0889)
Single-Trial VEP Estimation Using Support Vector Machines in Single-Channel
Jin-An Guan
South-Central University for Nationalities, China

C11-09 (ICICIC-2006-1089)
The Support Vector Machine (SVM) Based Near-Infrared Spectrum Recognition of Leaves Infected by the Leafminers
Wu Dake and Ma Chengwei
China Agricultural University, China

C11-10 (ICICIC-2006-0324)
Research on an Algorithm of Support Vector Stepwise Regression
Shaohua Zeng, Yan Wei, Tingcai Duan, and Changxiu Cao
Chongqing University, China
Session C12
Session Title: Information Hiding and Security (II)
Session Chair: Zhe-Ming Lu, Harbin Institute of Technology, China
Hans Georg Schaathun, University of Surrey, UK

C12-01 (ICICIC-2006-0052)
New Audio Embedding Technique Based on Neural Network
Huiqin Wang, Li Mao, and Keshan Xiu
Xi'an Architecture and Technology University, China

C12-02 (ICICIC-2006-0106)
Rotation, Scaling and Translation Invariant Blind Digital Watermarking for 3D Mesh Models
Wang LIU and Sheng-he SUN
Harbin Institute of Technology, China

C12-03 (ICICIC-2006-0703)
An Image Watermarking Scheme Using Pattern Coding Technique
Chin-Chen Chang, Tung-Shou Chen, and Hsien-Chu Hsia
Feng Chia University, Taiwan

C12-04 (ICICIC-2006-0044)
Robustness Analysis of Watermarking Schemes Based on Two Novel Transforms
Jinwei Wang, Guangjie Liu, Yuewei Dai, Zhiquan Wang, and Shiguo Lian
Nanjing University of Science and Technology, China

C12-05 (ICICIC-2006-0666)
Multimedia Digital Watermarking Detection System Based on Watermark Mobile Agent
Hong Yin, Zengqiang Chen, and Zhuzhi Yuan
Nankai University, China

C12-06 (ICICIC-2006-1112)
Adaptive Watermarking Model and Detection Performance Analysis
Rongrong Ni and Quqi Ruan
Beijing Jiaotong University, China

C12-07 (ICICIC-2006-1103)
An Improved Digital Watermarking Scheme in the Domain of Vector Quantization
Chao-Chin Chang, Chin-Shiuh Shieh, Jeng-Shyang Pan, Bin-Yih Liao, Lin Hong, and Hung-Jen Lee
Kaohsiung University of Applied Sciences, Taiwan

C12-08 (ICICIC-2006-0923)
Reversible Data Embedding for Tamper-Proof Watermarks
HyeRan Lee and KyungHyun Rhee
Pukyong National University, Korea

C12-09 (ICICIC-2006-0007)
Robust Image Watermarking Algorithm Based on Predictive Vector Quantization
Yue-Nan Li, Chun-He Liu, Zhe-Ming Lu, and Jeng-Shyang Pan
Harbin Institute of Technology, China

C12-10 (ICICIC-2006-0026)
A Transformed-Matrix Asymmetric Watermarking Scheme
Yang Shuangyuan, Liu Zhengyu, Han Shuihua, and Zhang Xikun
Xiamen University, China
**Session C13 (Invited Session ICICIC-2006-IS21)**

Session Title: Control of Time-delay Systems  
Session Chair: Shengyuan Xu, Nanjing University of Science and Technology, China  
Xiangqin Liu, Beijing Jiaotong University, China

**C13-01 (ICICIC-2006-IS21-001)**

*Stability Analysis for Time-delay Fuzzy Systems Using Augmented Lyapunov Functional Approach*
Chong Lin, Yong He, Lei Guo, and Shengyuan Xu  
Qingdao University, China

**C13-02 (ICICIC-2006-IS21-002)**

*Output Feedback Control of Discrete Systems with Time-varying Delay*
Yuanqing Xia, P. Shi, G. P. Liu, and D. Rees  
Beijing Institute of Technology, China

**C13-03 (ICICIC-2006-IS21-003)**

*Guaranteed Cost Control for Uncertain Stochastic Systems with State and Input Delays*
Yamei Gong and Shengyuan Xu  
Nanjing University of Science and Technology, China

**C13-04 (ICICIC-2006-IS21-005)**

*Dynamics of Internet Congestion Control Algorithm with Communication Delays*
Hong-Yong Yang, Yong-Sheng Zhao, and Fu-Sheng Wang  
Ludong University, China

**C13-05 (ICICIC-2006-IS21-007)**

*Robust $L_2-L_\infty$ Filtering for Uncertain Systems with Pole and Error Variance Constraints*
Xiaohua Liu and Lina Zhou  
Ludong University, China

**C13-06 (ICICIC-2006-IS21-008)**

*Dual-rate Predictive Control for Time Delays*
Xiaohua Liu and Jing Liu  
Ludong University, China

**C13-07 (ICICIC-2006-IS21-009)**

*Active Control for Structural Systems with Nonlinear Perturbations and Exogenous Disturbances*
Lei Guo, Lingyao Wu, Wenzhang Li, and Haixia Wang  
Southeast University, China

**C13-08 (ICICIC-2006-1075)**

*Observer-based Fault Detection for Networked Control Systems with Random Time-delays*
Maiying Zhong, Yunxia Liu, and Chuanfeng Ma  
Shandong University, China

**C13-09 (ICICIC-2006-0935)**

*The Parametrization of All Stabilizing Repetitive Controllers for Multiple-Input/Multiple-Output Time-Delay Systems*
Kou Yamada, Keiji Satoh, and Yeju Mei  
Gunma University, Japan

**C13-10 (ICICIC-2006-0517)**

*Stability Analysis of Cross Beam System with Two Time Delays*
YU Hongyun, ZOU Huichao, and XIAO Bin  
Ludong University, China
Session C14 (Invited Session ICICIC-2006-IS22)
Session Title: Informational and Mathematical Models on Biomedical Elements and Organs
Session Chair: Masahiro Nakano, University of Occupational and Environmental Health, Japan
Houjin Chen, Beijing Jiaotong University, China

C14-01 (ICICIC-2006-IS22-001)
Stochastic Mechanism and Its Dynamics in Biological System
Hiroyuki Matsuura, Nobuo Noda, Kazuyuki Koide, Tetsuya Nemoto, Kadahiro Kin, Ken-ichi Makino, and Masahiro Nakano
National Institute for Longevity Science, Japan

C14-02 (ICICIC-2006-IS22-002)
Numerical Analysis of Blood Flow in Vessels
Nobuo NODA, Masahiro NAKANO, Hiroyuki MATSUURA, Tetsuya NEMOTO, and Kazuharu Koide
National Center for Geriatrics and Gerontology, Japan

C14-03 (ICICIC-2006-IS22-003)
Design of RT-PCR Primers Based on Informational Method
Ken-ichi Makino and Hideyasu Hirano
Showa Hospital, Akane Medical Corporation, Japan

C14-04 (ICICIC-2006-IS22-004)
Simulations on the Population and Disease in Japan
Kazuharu Koide, Hiroyuki Matsuura, Nobuo Noda, and Masahiro Nakano
National Center for Geriatrics and Gerontology, Japan

C14-05 (ICICIC-2006-IS22-005)
Cell Preservation by Application of Tardigrada’s Adaptation to Extreme Circumstances
Tetsuya NEMOTO, Tadahiro KIN, Masahiro NAKANO, Akira SHIMAMOTO, Fumio NOGATA, and Hiroyuki MATSUURA
National Institute for Longevity Sciences, Japan

C14-06 (ICICIC-2006-IS22-006)
Molecular Dynamics Simulation of Complex Phase Transition of Clathrate Hydrates in Living Body
Tadahiro Kin, Tetsuya Nemoto, Ken-ichi Makino, and Kazuharu Koide
Kyushu University, Japan

C14-07 (ICICIC-2006-IS22-007)
Management and Control of Vibrational Motions of Muscle Elements
Masahiro Nakano, Hiroyuki Matsuura, Tetsuya Nemoto, and Nobuo Noda
University of Occupational and Environmental Health, Japan

C14-08 (ICICIC-2006-0687)
Rectification and Calibration for Biomedical Image Processing
Jupeng Li, Houjin Chen, Ying Wang, and Wei Wang
Beijing Jiaotong University, China

C14-09 (ICICIC-2006-0721)
Speech Rate Control for the Compound Hearing Aid Processing
Dan ZHANG, Tadashi SAKATA, and Yuichi UEDA
Kumamoto University, Japan

C14-10 (ICICIC-2006-0697)
A Registration Method of Fundus Images Based on Edge Detection and Phase-Correlation
Wei Wang, Houjin Chen, Jupeng Li, and Jiangbo Yu
Beijing Jiaotong University, China
Session C15
Session Title: Image Processing / Video Processing
Session Chairs: Hongbin Zhang, Beijing University of Technology, China
Rongrong Ni, Beijing Jiaotong University, China

C15-01 (ICICIC-2006-0640)
Direct Minutiae Matching in Gray-Level Fingerprint Images
Chih-Jen Lee, Tai-Ning Yang, Chun-Jung Chen, and Keng-Li Lin
Chinese Culture University, Taiwan

C15-02 (ICICIC-2006-1020)
The Implementation of a Visual Sensing System for 3-D Control of the RTG Crane
Kuan-chun Huang
Lan-Yang Institute of Technology, Taiwan

C15-03 (ICICIC-2006-1008)
A Novel Shape Coding Scheme for MPEG-4 Visual Standard
Lele Zhou and Saif Zahir
The University of Northern British Columbia, Canada

C15-04 (ICICIC-2006-0864)
Cut-and-Paste Editing over 3D Meshes
Zhanguo Ma, Bo Liu, and Hongbin Zhang
Beijing University of Technology, China

C15-05 (ICICIC-2006-0736)
Video Shot Detection Using Hidden Markov Models with Complementary Features
Weigang Zhang, Jianqiu Lin, Xiaopeng Chen, Qingming Huang, and Yang Liu
Harbin Institute of Technology, China

C15-06 (ICICIC-2006-0760)
Design of a Scalable Computer Cluster for MPEG-4 Parallel Encoder
Po-Kai Chiu, Wen-Yu Su, and Chih-Ping Chu
Cheng Kung University, Taiwan

C15-07 (ICICIC-2006-0766)
An Efficient Implementation of CAVLC for H.264/AVC
Yi-Ming Lin and Pei-Yin Chen
Cheng Kung University, Taiwan

C15-08 (ICICIC-2006-0472)
The System of Multi-Instance Image Query with Heterogeneous Features
Jiann-Jone Chen, Che-Kang Chang, and Chia-Rong Hu
Taiwan University of Science and Technology, Taiwan

C15-09 (ICICIC-2006-0826)
A Programmable Bitstream Parser for Multiple Video Coding Standards
Jianying Peng, Xing Qin, Jian Yang, Xiaolang Yan, and Xiexiong Chen
ZheJiang University, China

C15-10 (ICICIC-2006-0827)
A Novel Interactive Progressive Decoding Method for Fractal Image Compression
Huaqing Wang, Qiang Wu, Xiangjian He, and Tom Hintz
Sydney University of Technology, Australia
Session C16
Session Title: Cross-discipline Technology (I)
Session Chairs: Yiming Chen, Yanshan University, China
De Xu, Beijing Jiaotong University, China

C16-01 (ICICIC-2006-0430)
A New Method of Numerical Integration
Zhe-Zhao Zeng, Ye Chen, and Wei Zhu
Changsha University of Science and Technology, China

C16-02 (ICICIC-2006-0868)
A New Program-iteration Pattern IGMRES(m) Algorithm Based on the FM-BEM and its Application
Chunxiao Yu, Guangxian Shen, and Yiming Chen
Yanshan University, China

C16-03 (ICICIC-2006-0806)
A New Approach to Graph Seriation
Jin Tang, Chunyan Zhang, Bin Luo
Anhui University, China

C16-04 (ICICIC-2006-1063)
New Region of Interest Image Coding based on Multiple Bitplanes Up-down Shift using improved SPECK Algorithm
Li-Bao Zhang, Xian-Chuan Yu, and Shi-Hong Wang
Beijing Normal University, China

C16-05 (ICICIC-2006-0530)
An Applicable Multiple-level Classification Based on Image Semantic Correlation from User
Hongli Xu, De Xu, Fangshi Wang, and Feifei Fan
Beijing Jiaotong University, China

C16-06 (ICICIC-2006-0801)
Interface Design and QoS Performance of Video Monitor System
Rikun Liao, Yuefeng Ji, and Hui Li
Beijing University of Posts and Telecommunications, China

C16-07 (ICICIC-2006-1007)
Study on the Detection Algorithm of Bridge over Water in SAR Image Based on Fuzzy Theory
Weizhou Zhao, Jianshe Song, and Jie Zhang
Xi’an Research Institute of High-tech, China

C16-08 (ICICIC-2006-0752)
Product and Coproduct of CF Symmetric Group Categories
Kaiqi Zou and Guannan Deng
Dalian University, China

C16-09 (ICICIC-2006-0072)
New Robust Stability Criteria for Uncertain Neural Networks with Time-Varying Delays
Jinhui Zhang, Jiqing Qiu, and Peng Shi
Hebei University of Science and Technology, China

C16-10 (ICICIC-2006-0275)
Hyperspectral Feature Extraction using Selective PCA based on Genetic Algorithm with Subgroups
Ying Liu, Yanfeng Gu, and Ye Zhang
Harbin Institute of Technology, China
Session C17
Session Title: Cross-discipline Technology (II)
Session Chairs: Xiamu Niu, Harbin Institute of Technology, China
Yi-Xian Yang, Beijing University of Post and Telecommunication, China

C17-01 (ICICIC-2006-0947)
An EOQ Model for Multi-Item and Multi-Storehouse Based on New Hybrid Genetic Algorithm
Peixin Zhao and Hong Wang
Shandong University, China

C17-02 (ICICIC-2006-0080)
Symmetric Steganography Secure Against Chosen Message and Original Cover Attacks
Nan Jiang, Jian Wang, Xin-Xin Niu, and Yi-xian Yang
Beijing University of Technology, China

C17-03 (ICICIC-2006-0711)
Cryptanalysis on Generalization of Threshold Signature and Authenticated Encryption for Group Communications
Honglie Zhang, Guoyin Zhang, and Jiguo Li
Qiquh University, China

C17-04 (ICICIC-2006-0647)
A New Design Scheme of Role-Based Access Control Based on PKI
Yuping Deng, Xiaowei Guo, and Xiamu Niu
Harbin Institute of Technology, China

C17-05 (ICICIC-2006-0046)
Robust VQ-Based Digital Image Watermarking for Noisy Channel
Chuang Lin and Jeng-Shyang Pan
Harbin Institute of Technology, China

C17-06 (ICICIC-2006-0642)
Relational Databases Watermark Technique Based on Content Characteristic
Yong Zhang, Xiamu Niu, Dongning Zhao, Juncao Li, and Siming Liu
Harbin Institute of Technology, China

C17-07 (ICICIC-2006-0596)
Routing Protocols for an Integrated Cellular and Ad-hoc Network with Flexible Access and Their Overhead Analysis
Yumin Wu, Kun Yang, Shaocun Zhong, Wenyong Wang, and Jun Shen
University of Essex, UK