

Improving the Efficiency of Forward Checking Algorithm for Solving Constraint Satisfaction Problems

Authors: [Yusef Farhang](#)
[M. R. Meybodi](#)
[A. R. Hatamlou](#)

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↑ ABSTRACT

There are various problems concerning artificial intelligence which can be stated in the form of constraint satisfaction problems (CSP). These problems are defined by a set of variables and a set of constraints in the range of selectable values for variables. Solution of this problem is a set of values for variables so that all constraints of the problem are satisfied. A part of Algorithms for CSP are forward algorithms. They are used to check consistency and constraint propagation. The most famous forward algorithm, is forward checking algorithm (FCA). In this article we are going to introduce FCA and suggest two algorithms to improve efficiency of forward.

↑ AUTHORS

[Yusef Farhang](#)

No contact information provided

REFERENCES

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[Applying Embedded Hybrid ANFIS/Quantum-Tuned BPNN Prediction to Collision Warning System for Motor Vehicle Safety](#)

[Bao Rong Chang](#), [Chung-Ping Young](#), [Hsiu Fen Tsai](#), [Jian-Jr Lin](#)

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This study is to explore how to realize high-performance collision warning system (CWS), providing the precaution against traffic crash in transit. An embedded hybrid adaptive network-based fuzzy inference system (ANFIS) plus quantum-tuned back-propagation ...[expand](#)

[A Sense Based Similarity Measure for Cross-Lingual Documents](#)

[Hsun-Hui Huang](#), [Horng-Chang Yang](#), [Yau-Hwang Kuo](#)

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doi>[10.1109/ISDA.2008.284](#)

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As cross-lingual information retrieval attracts increasing attention, tools that measure cross-lingual document similarity become desirable. Since the way that people convey thoughts at the abstract concept level makes little, if any, difference in the ...[expand](#)

[An Intelligent Intrusion Detection System Based on UPnP Technology for Smart Living](#)

[Mong-Fong Horng](#), [Bo-Chao Chang](#), [Bei-Hao Su](#)

Pages: 14-18

doi>[10.1109/ISDA.2008.361](#)

Available formats:  [Publisher Site](#)

In this paper, an intelligent intrusion detection system, based on UPnP technology for smart home is proposed. In the developed system, home users equipped with PDAs may locally and remotely receive the alert of home intrusion with captured subject image. ...[expand](#)

[Image Fusion Based on Grey Polynomial Interpolation](#)

[Cheng-Hsiung Hsieh](#), [Pei-Wen Chen](#), [Chia-Wei Lan](#), [Kuan-Chieh Hsiung](#)

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Available formats:  [Publisher Site](#)

In this paper, an image fusion approach based on grey polynomial interpolation (GPI) is presented to enhance the visual quality for a high contrast image. The objective of image fusion is to integrate different source images and to produce an image with ...[expand](#)

[A Method of Camera Relationship Establishment Based on Temporal and Spatial Information of Video Clips](#)

[Hsien-Chou Liao](#), [Cheng-Hsiung Hsieh](#), [Yi-Ming Hsieh](#), [Chih-En Wu](#)

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Camera is widely used in daily life in recent years and causes our life towards the ubiquitous camera environment. The analysis of camera videos offers the functions of detecting, classifying or identifying moving objects. The cooperation of multiple ...[expand](#)

[An Intelligent Agent for Personalized E-Learning](#)

[Jin-Ling Lin](#), [Ming-Hung Chen](#)

Pages: 27-31

doi>[10.1109/ISDA.2008.250](#)

Available formats:  [Publisher Site](#)

When people browse the learning materials on a web site, the sequence of content they browse might not have any particular relations. Therefore, the proposed research tries to build an intelligent agent for discovering a specific learner's interests ...[expand](#)

[A Method of Pulmonary Nodules Detection with Support Vector Machines](#)

[Liu Lu](#), [Liu Wanyu](#)

Pages: 32-35

doi>[10.1109/ISDA.2008.48](#)

Available formats:  [Publisher Site](#)

Lung cancer is one of the deadly and most common diseases in the world. Many methods have been proposed to avoid radiologists fail to diagnose small pulmonary nodules. Recently, support vector machines (SVMs) had received an increasing attention for ...[expand](#)

[A New Algorithm for Power System Scheduling Problems](#)

[Huo-Ching Sun](#), [Yann-Chang Huang](#), [Kun-Yuan Huang](#)

Pages: 36-40

doi>[10.1109/ISDA.2008.200](#)

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This paper presents a parallel-refined simulated annealing (PRSA) approach for the generator maintenance scheduling (GMS) problem to maximize

profit objective function. The merit of simulated annealing (SA) is preserved and the deficiency is pruned away ...[expand](#)

[Fast Estimation of Communication Cost for Thread Mapping in Computation Grids Using SVD](#)

[Ti-Hsin Wang](#), [Tyng-Yeu Liang](#), [Chia-Hao Chang](#)

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Threads migration is performed in parallel programs in order to achieve communication minimization and efficient performance. Since the communication cost of the DSM system have to be measured through the calculation of type-sharing degree between threads, ...[expand](#)

[Performance Comparison of ADRS and PCA as a Preprocessor to ANN for Data Mining](#)

[Nicholas Navaroli](#), [David Turner](#), [Arturo I. Concepcion](#), [Robert S. Lynch](#)

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In this paper we compared the performance of the Automatic Data Reduction System (ADRS) and principal component analysis (PCA) as a preprocessor to artificial neural networks (ANN). ADRS is based on a Bayesian probabilistic classifier that is used with ...[expand](#)

[Applying the Particle Swarm Optimization and Boltzmann Function for Feature Selection and Classification of Lymph Node in Ultrasound Images](#)

[Chuan-Yu Chang](#), [Cheng-Ting Lai](#), [Shao-Jer Chen](#)

Pages: 55-60

doi>[10.1109/ISDA.2008.255](#)

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A lymph node (LN), which can resist virus and germs, is part of the lymphatic system that exists in the human body and every apparatus inside it. There are many kinds of pathological changes in LN. Metastatic is one of the important indexes to estimate ...[expand](#)

[Adaptive Template Block-Based Block Matching for Object Tracking](#)

[Wu-Chih Hu](#)

Pages: 61-64

doi>[10.1109/ISDA.2008.64](#)

Available formats:  [Publisher Site](#)


This paper proposes an adaptive template block for object tracking in typical block matching algorithms. The bounding box of moving object would have different scales while the object moves from near to far or from far to near. Therefore, the typical ...[expand](#)

[Image Thresholding Using Mean-Shift Based Particle Swarm Optimization](#)

[Chien-Cheng Lee](#), [Yu-Chun Chiang](#), [Cheng-Yuan Shih](#), [Wen-Sheng Hu](#)

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In this paper, we propose a mean shift based particle swarm optimization (MS-PSO) algorithm to solve the image thresholding problem. PSO is an emerging evolutionary algorithm. However, the traditional PSO uses random number to move to the optimal position. ...[expand](#)

[Object-Based Image Retrieval Using Perceptual Grouping](#)

[Tian-Luu Wu](#), [Ji-Hwei Horng](#)

Pages: 71-76

doi>[10.1109/ISDA.2008.258](#)

Available formats:  [Publisher Site](#)

This paper presents object-based image retrieval using a novel method based on perceptual grouping. The perceptual grouping is obtained by detecting the line edge from a square block using the two consecutive primitive edge differences detector. Object ...[expand](#)

[Fragile Watermarking for H.264 Video Stream Authentication](#)

[Chuen-Ching Wang](#), [Yu-Chang Hsu](#)

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doi>[10.1109/ISDA.2008.279](#)

Available formats:  [Publisher Site](#)

H.264 is the currently state-of-the-art video compression standard performing significant improvement in coding efficiency and quality compared to other existing standard, such as MPEG-4 and H.263. The standard adapts a lot of novel techniques, like ...[expand](#)

[Research on Solar Photovoltaic Surveillance System Base on Network](#)

[Li De Jun](#), [Liu Jie](#), [Tian Yu Kang](#)

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doi>[10.1109/ISDA.2008.230](#)

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With the development of microelectronical technology, modern communication, network technology, network Surveillance technology is continuously improved .It related to the operation and management of devices in Solar Photovoltaic system. In the system, ...[expand](#)

[A Fast Recursive Algorithm for Gradient-Based Global Motion Estimation in Sparsely Sampled Field](#)

[Yong-Ren Huang](#)

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This paper proposes a new approach for global motion estimation using recursive algorithm in the sparsely sampled field, as well as we process parametric estimation in framework of one stage not in proposed pyramid structure. Firstly, we divide the image ...[expand](#)

[Fuzzy Possibility C-Mean Based on Complete Mahalanobis Distance and Separable Criterion](#)

[Hsiang-Chuan Liu, Der-Bang Wu, Jeng-Ming Yih, Shin-Wu Liu](#)

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Available formats:  [Publisher Site](#)

Two well known fuzzy partition clustering algorithms, FCM and FPCM are based on Euclidean distance function, which can only be used to detect spherical structural clusters. GK clustering algorithm and GG clustering algorithm, were developed to detect ...[expand](#)

[Illumination Invariant Color Model for Image Matching and Object Recognition](#)

[Hui-Fuang Ng, Yen-Wei Chu](#)

Pages: 95-99

doi> [10.1109/ISDA.2008.60](#)

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In this paper we present a new illumination invariant color model for image matching and object recognition. The color model is defined as the ratios of the color differences between neighboring pixels for each color component. Based on the dichromatic ...[expand](#)

[A Scene Images Classification Method Based on Local Binary Patterns and Nearest-Neighbor Classifier](#)

[Guang Han, Chunxia Zhao](#)

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Classification of textures in scene images is very difficult due to the high variability of the data within and between images caused by effects such as non-homogeneity of the textures, changes in illumination, shadows, foreshortening and self-occlusion. ...[expand](#)

[Using Resampling for Optimizing Continuous Queries in Wireless Sensor Networks](#)

[San-Yih Hwang, Pin-Yu Liu, Chien-Hsiang Lee](#)

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doi> [10.1109/ISDA.2008.120](#)

Available formats:  [Publisher Site](#)


Sensor networks open up new opportunities to observe and interact with the physical world around us. Although there have been many advances in sensor network applications and technology, sensor networks still suffer from the major problems of limited ...[expand](#)

[Discovering Moving Clusters from Spatial-Temporal Databases](#)

[San-Yih Hwang, Chien-Ming Lee, Chien-Hsiang Lee](#)

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doi> [10.1109/ISDA.2008.121](#)

Available formats:  [Publisher Site](#)


Owing to the advances of computer and communication technologies, clustering analysis on moving objects has attracted increasing attention in recent years. An interesting pattern is to find the moving clusters that are composed of objects moving along ...[expand](#)

[Malicious Webpage Detection by Semantics-Aware Reasoning](#)

[Shih-Fen Lin, Yung-Tsung Hou, Chia-Mei Chen, Bingchiang Jeng, Chi-Sung Lai](#)

Pages: 115-120

doi> [10.1109/ISDA.2008.290](#)

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The recent evolutionary development of dynamic HTML techniques empowers attackers a new and powerful tool to compromise machines. A malicious DHTML code disguises itself as a normal webpage. The malicious webpage infects the victim when a user browses ...[expand](#)

[The Design and Implementation of Zero-Copy for Linux](#)

[Liu Tianhua, Zhu Hongfeng, Chang Guiran, Zhou Chuansheng](#)

Pages: 121-126

doi> [10.1109/ISDA.2008.102](#)

Available formats:  [Publisher Site](#)


Zero-Copy has been a hot research topic for a long history, which is an underlying technology to support many applications, including multimedia retrieval, datamining, efficient data transferring, and so on. Zero-Copy means during message transmission, ...[expand](#)

[Research on Intelligent Systems Applied to Tourism Development Design](#)

[Wei Min](#)

Pages: 127-132

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Available formats:  [Publisher Site](#)


In the information techniques century over the past decade, it is seen that the tourism is linked to intelligent systems is becoming more and more popular. This paper proposes a novel intelligent system for improving product of tourism enterprises for ...[expand](#)

[Heuristics for Dynamic Lot-Sizing with Plan Setup Cost in a Rolling Horizon Environment](#)

[Yooseong Choi, In-Jae Jeong](#)

Pages: 133-138

doi> [10.1109/ISDA.2008.192](#)

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Researches of dynamic lot-sizing problem in a rolling horizon environment have not considered plan setup cost occurring when a plan is issued. This research deals with the dynamic single-level lot-sizing problem with plan setup cost and proposes heuristics ...[expand](#)

[The Development of a Creativity-Enhancing Model for Innovative Design Concepts](#)

[Zhiqiang Zhu, Sev Nagalingam, Hung-Yao Hsu](#)

Pages: 139-144

doi> [10.1109/ISDA.2008.63](#)

Available formats:  [Publisher Site](#)


Creativity is highly treasured and pursued in most domains of society; persistent needs for aiming to enhance creative behaviours emerge and exist. To meet this demand, a Creativity Enhancing (CE) model has been proposed in this paper. As human beings ...[expand](#)

[An Agent Based Rough Classifier for Data Mining](#)

[Azuraliza Abu Bakar, Zulaiha Ali Othman, Abdul Razak Hamdan, Rozianiwati Yusof, Ruhaizan Ismail](#)

Pages: 145-151

doi> [10.1109/ISDA.2008.29](#)

Available formats:  [Publisher Site](#)


This paper proposes a new agent based approach in rough set classification theory. Rough set is one of data mining techniques for classification. It generates rules from large database and it has mechanism to handle noise and uncertainty in data. However, ...[expand](#)

[Equivalence between Weight Decay Learning and Explicit Regularization to Improve Fault Tolerance of RBF](#)

[John Sum, Wun-He Luo, Yung-Fa Huang, You-Ting Jheng](#)

Pages: 152-157

doi> [10.1109/ISDA.2008.146](#)

Available formats:  [Publisher Site](#)

Although weight decay learning has been proposed to improve generalization ability of a neural network, many simulated studies have demonstrated that it is able to improve fault tolerance. To explain the underlying reason, this paper presents an analytical ...[expand](#)

[Low Complexity Search Method for G.723.1 MP-MLQ Algorithm](#)

[R. S. Lin, Y. C. Chen, F. K. Chen](#)

Pages: 158-161

doi> [10.1109/ISDA.2008.203](#)

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The Multi-pulse Maximum Likelihood Quantization (MP-MLQ) algorithm with high complexity and high quality in its analysis-by-synthesis optimization has been used by many speech coding standards. To re-duce the computational complexity of MP-MLQ in ITU-T ...[expand](#)

[Prediction of Protein Subcellular Localizations](#)

[Chin-Sheng Yu, Jenn-Kang Hwang](#)

Pages: 165-170

doi> [10.1109/ISDA.2008.306](#)

Available formats:  [Publisher Site](#)

The support vector machine (SVM) method based on n-peptide composition (Yu et al, Proteins: Struct. Funct. Genet. 2003;50:531-536) is used to predict the subcellular localizations of proteins. For an unbiased assessment of the results, we apply ...[expand](#)

[Advanced Plasmonic Biosensing Devices and Automation Systems for Disease Diagnostic and Drug Screening Applications](#)

[Nan-Fu Chiu, Tzou-Shaang Wey, Chun Yu, Tzu-Chien Hsiao, Chii-Wann Lin](#)

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Available formats:  [Publisher Site](#)

Bio-plasmonics is proposed for the research and development of novel devices, which use biomolecules as a part of the plasmon oscillation system to actively interact with nano/micro structure. We have reported a novel design of Surface Plasmon Resonance ...[expand](#)

[Research on the Reciprocity of Transceiver in the Smart Antenna Application](#)

[Fu Haiyang, Gao Peng, Ding Haibao](#)

Pages: 177-182

doi> [10.1109/ISDA.2008.61](#)

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It has been proven in this paper that there are two wrong conclusions in recent smart antenna (SA) application theory for the CDMA system. Here come the two wrong conclusions: 1) only one SA can make multiple CDMA channels transmit directionally on a ...[expand](#)

[Genetic Annealing Optimization: Design and Real World Applications](#)

[Mostafa A. El-Hosseini, Aboul Ella Hassanien, Ajith Abraham, Hameed Al-Qaheri](#)

Pages: 183-188

doi> [10.1109/ISDA.2008.311](#)

Available formats:  [Publisher Site](#)


Both simulated annealing (SA) and the genetic algorithms (GA) are stochastic and derivative-free optimization technique. SA operates on one solution at a time, while the GA maintains a large population of solutions, which are optimized simultaneously. ...[expand](#)

[Intelligent Emotion Decision System for Autonomous Agents](#)

[Xia Mao, Haiyan Bao, Zheng Li](#)

Pages: 189-194

doi> [10.1109/ISDA.2008.56](#)

Available formats:  [Publisher Site](#)

This paper proposes an intelligent emotion decision system (IEDS). Since the existing emotion models take little account of the influence of spontaneous emotional transition, the importance of social status and the diversity of emotional expressive pattern, ...[expand](#)

[Using Multi-attribute Utility Theory to Rank and Select Co-branding Partners](#)

[Wei-Lun Chang](#)

Pages: 195-200

doi> [10.1109/ISDA.2008.220](#)

Available formats:  [Publisher Site](#)


As many companies seek growth through the extension of new markets, co-branding strategy provides an avenue to provide signals of quality and image as successful brands. In the last decade, co-branding and other cooperative brand activities have seen ...[expand](#)

[User Behavior Analysis in Masquerade Detection Using Principal Component Analysis](#)

[Han-Ching Wu, Shou-Hsuan Stephen Huang](#)

Pages: 201-206

doi> [10.1109/ISDA.2008.243](#)

Available formats:  [Publisher Site](#)

Network attackers usually compromise legitimate user account to gain access to host computer. To detect and prevent this kind of attacks, it is typical to build Anomaly Intrusion Detection System (AIDS) to distinguish a legitimate user from an intruder, ...[expand](#)

[Development of an Agent-Based Distributed Multi-axis Surface Milling Machining Service System](#)

[Yung-Chou Kao, Mau-Sheng Chen](#)

Pages: 207-212

doi> [10.1109/ISDA.2008.175](#)

Available formats:  [Publisher Site](#)

The development of an agent-based distributed Multi-axis surface machining system is described in this paper. The proposed system has successfully applied software agent-based technology in constructing a distributed freeform surface multi-axis machining ...[expand](#)

[Neural Network Integration Fusion Model and Application](#)

[Xiaodan Zhang, Zhendong Niu](#)

Pages: 213-215

doi> [10.1109/ISDA.2008.331](#)

Available formats:  [Publisher Site](#)


A new fusion model is proposed, which is the combination of BP neural networks and Rough Set algorithm, to solve the problems of low precision rate in Aircraft engine fault diagnosis by traditional methods. The method realizes feature level fusion of ...[expand](#)

[Thinned ECOC Decomposition for Gene Expression Based Cancer Classification](#)

[Nima Hatami](#)

Pages: 216-221

doi> [10.1109/ISDA.2008.308](#)

Available formats:  [Publisher Site](#)

Cancer classification using gene expression data has the great importance in bioinformatics and is known to contain the keys for addressing the fundamental problems relating to cancer diagnosis and drug discovery. Error correcting output coding (ECOC) ...[expand](#)

[Multilingual Information Retrieval Using GHSOM](#)

[Hsin-Chang Yang, Chung-Hong Lee](#)

Pages: 225-228

doi> [10.1109/ISDA.2008.265](#)

Available formats:  [Publisher Site](#)

The Web pages nowadays were written in various languages including English, Chinese, Spanish, etc. There are increasing needs in searching Web pages of different languages using single query. This task is called multilingual information retrieval (MLIR). ...[expand](#)

[An Intelligent PPQA Web Services for CMMI Assessment](#)

[Mei-Hui Wang, Chang-Shing Lee](#)

Pages: 229-234

doi> [10.1109/ISDA.2008.90](#)

Available formats:  [Publisher Site](#)

In this paper, an intelligent Process and Product Quality Assurance (PPQA) web services for Capability Maturity Model Integration (CMMI) assessment is proposed. The intelligent web services are implemented by following the specific goals of PPQA process ...[expand](#)

[A DEA/AHP Approach to Efficiency Investigation for Taiwan's Retailing Industry via Financial Data Analysis](#)

[YaFen Tseng, ShuChen Kao, TzaiZang Lee, ChienHsing Wu](#)

Pages: 235-239

doi> [10.1109/ISDA.2008.106](#)

Available formats:  [Publisher Site](#)


A combined data analysis technique of Analytical Hierarchical Process (AHP) and Data Envelopment Analysis (DEA) is employed in this paper to examine performance and to rank importance of inputs/outputs for Taiwan's retailing industry. Financial data ...[expand](#)

[Improving the Efficiency of Forward Checking Algorithm for Solving Constraint Satisfaction Problems](#)

[Yusef Farhang](#), [M. R. Meybodi](#), [A. R. Hatamlou](#)

Pages: 240-245

doi> [10.1109/ISDA.2008.272](#)

Available formats:  [Publisher Site](#)

There are various problems concerning artificial intelligence which can be stated in the from of constraint satisfaction problems (CSP). These problems are defined by a set of variables and a set of constraints in the range of selectable values for variables. ...[expand](#)

[Fuzzy Clustering by Differential Evolution](#)

[Yucheng Kao](#), [Jin-Cherng Lin](#), [Shin-Chia Huang](#)

Pages: 246-250

doi> [10.1109/ISDA.2008.270](#)

Available formats:  [Publisher Site](#)

A fuzzy clustering algorithm based on differential evolution (FCDE) is presented in this paper in order to overcome the disadvantages of traditional fuzzy c-means algorithm (FCM). FCM is sensitive to initialization so that its search is easy to fall ...[expand](#)

[Intelligent Aging Estimation Method for Lead-Acid Battery](#)

[Yu-Hua Sun](#), [Hurng-Liahng Jou](#), [Jinn-Chang Wu](#)

Pages: 251-256

doi> [10.1109/ISDA.2008.17](#)

Available formats:  [Publisher Site](#)

Abstract -In this paper, an intelligent aging estimation method based on Sample Entropy (SampEn) is proposed for the lead-acid batteries serially connected in a string. This method can prevent the potential battery failure and guarantee the battery availability. ...[expand](#)

[A Two-Stage Approach for AAM Fitting](#)

[Mingcai Zhou](#), [Yangsheng Wang](#), [Xiaoyan Wang](#), [Xuetao Feng](#)

Pages: 257-261

doi> [10.1109/ISDA.2008.77](#)

Available formats:  [Publisher Site](#)

The Active Appearance Model (AAM) is a powerful generative method for modeling and registering deformable objects. The Project-Out Inverse Compositional (POIC) method is one of the most common methods for AAM fitting and is also the fastest known method ...[expand](#)

[Analysis and Estimation of Micro-Doppler Effect in Passive Positioning System](#)

[Cai Miaohong](#), [He Feng](#), [Wu Lenan](#)

Pages: 262-265

doi> [10.1109/ISDA.2008.7](#)

Available formats:  [Publisher Site](#)

The micro-Doppler effect on a passive positioning system, introduced by motion of a mobile terminal in multipath fading environment, was investigated and its parameters were estimated. First micro-Doppler model under multipath propagation was presented. ...[expand](#)

[Sequential Quadratic Programming Based on IPM for Constrained Nonlinear Programming](#)

[Ximing Liang](#), [Hassan A. Bashir](#), [Shanchun Li](#)

Pages: 266-271

doi> [10.1109/ISDA.2008.162](#)

Available formats:  [Publisher Site](#)

The field of constrained nonlinear programming (NLP) has been principally challenging to various gradient based optimization techniques. The Sequential quadratic programming algorithm (SQP) that uses active set strategy in solving quadratic programming ...[expand](#)

[Notes on the Distinction of Gaussian and Cauchy Mutations](#)

[Kuo-Torng Lan](#), [Chun-Hsiung Lan](#)

Pages: 272-277

doi> [10.1109/ISDA.2008.237](#)

Available formats:  [Publisher Site](#)

In evolutionary computation, Gaussian and Cauchy mutations are two popular mutation techniques and completely discussed in this study. It is known that Cauchy mutation has the better ability of escaping local optima, and Gaussian mutation is excellent ...[expand](#)

[Web Usage Mining Based on Clustering of Browsing Features](#)

[Chu-Hui Lee](#), [Yu-Hsiang Fu](#)

Pages: 281-286

doi> [10.1109/ISDA.2008.185](#)

Available formats:  [Publisher Site](#)

Predicting of user's browsing behavior is an important technology of E-commerce application. The prediction results can be used for personalization, building proper web site, improving marketing strategy, promotion, product supply, getting marketing ...[expand](#)

[Content-Based Image Retrieval Based on Vector Quantization and Affine Invariant Region](#)

[Chin-Feng Lee](#), [Shu-Ching Wang](#), [Yi-Jia Wang](#)

Pages: 287-290

doi> [10.1109/ISDA.2008.96](#)

Available formats:  [Publisher Site](#)

The content-based image retrieval (CBIR) is the most acceptable and often used image retrieval method, because it can be used to manage image database efficiently and effectively. The CBIR methods usually retrieve the images by image features. In this ...[expand](#)

[Novel Algorithms for Privacy Preserving Utility Mining](#)

[Jieh-Shan Yeh](#), [Po-Chiang Hsu](#), [Ming-Hsun Wen](#)

Pages: 291-296

doi> [10.1109/ISDA.2008.89](#)

Available formats:  [Publisher Site](#)

Privacy Preserving Data Mining (PPDM) has become a popular topic in the research community. How to strike a balance between privacy protection and knowledge discovery in the sharing process is an important issue. This study focuses on Privacy Preserving ...[expand](#)

[Improvement of Wang-Li's Forward-Secure User Authentication Scheme with Smart Cards](#)

[Wen-Bing Horng](#), [Cheng-Ping Lee](#)

Pages: 297-302

doi> [10.1109/ISDA.2008.275](#)

Available formats:  [Publisher Site](#)

Smart card-based applications have been widely used in e-commerce for years. Therefore, many authentication schemes have been proposed to improve security over insecure networks. In 2006, Wang and Li pointed out that Yoon et al.'s remote user authentication ...[expand](#)

[Intelligent Data Mining Approach for Fault Diagnosis](#)

[Yann-Chang Huang](#), [Huo-Ching Sun](#), [Yu-Hsun Lin](#)

Pages: 303-306

doi> [10.1109/ISDA.2008.201](#)

Available formats:  [Publisher Site](#)


This paper presents wavelet analysis and statistical techniques for assessing the insulation condition of power cables. A specific fault is made and placed on the terminal joint of a 25 kV power cable, and the deterioration phenomena is accelerated by ...[expand](#)

[A Rough Set and SVM Based Approach to Chinese Textual Affect Sensing](#)

[Xia Mao](#), [Zheng Li](#), [Haiyan Bao](#)

Pages: 307-311

doi> [10.1109/ISDA.2008.54](#)

Available formats:  [Publisher Site](#)

Text is an important modality for human-computer interaction, so studying the relationship between natural language and affective information as well as assessing the underpinned affective qualities of natural language has been the focus of research ...[expand](#)

[Nonlinear Function Approximation Based on Least Wilcoxon Takagi-Sugeno Fuzzy Model](#)

[Tsung-Ying Sun](#), [Shang-Jeng Tsai](#), [Cheng-Han Tsai](#), [Chih-Li Huo](#), [Chan-Cheng Liu](#)

Pages: 312-317

doi> [10.1109/ISDA.2008.261](#)

Available formats:  [Publisher Site](#)

The purpose of this paper is based on Radial Basis Function Neural Network (RBFN) to develop a Self-Constructing Least Wilcoxon-Generalized RBFN Fuzzy Inference System (LW-GRBFNFIS) and applied to nonlinear function approximation and chaotic time series ...[expand](#)

[An Evolutionary Classifier Based on Adaptive Resonance Theory Network II and Genetic Algorithm](#)

[I-En Liao](#), [Shu-Ling Shieh](#), [Hui-Ching Chen](#)

Pages: 318-322

doi> [10.1109/ISDA.2008.75](#)

Available formats:  [Publisher Site](#)


Adaptive Resonance Theory Network II (ART2) is a neural network concerning unsupervised learning. It has been shown that ART2 is suitable for clustering problems that require on-line learning of large-scale and evolving databases. However, if applied ...[expand](#)

[Monitoring System for Vehicle Power Supply Based on CAN Bus](#)

[Sujing Wang](#), [Lide Wang](#), [Ping Shen](#), [Biao Liu](#)

Pages: 323-326

doi> [10.1109/ISDA.2008.32](#)

Available formats:  [Publisher Site](#)

In order to meet the real-time, expansibility, flexibility and reliability requirements of the vehicle power supply mutil-module monitoring, CAN is used as system communication mode for constructing monitoring network to monitor power inverter module ...[expand](#)

[Fuzzy Fusion Method for Combining Small Number of Classifiers in Hyperspectral Image Classification](#)

[Chun-Hsiang Chuang](#), [Bor-Chen Kuo](#), [Hsuan-Po Wang](#)

Pages: 327-332

doi> [10.1109/ISDA.2008.107](#)

Available formats:  [Publisher Site](#)


For hyperspectral image classification problem, the random subspace method has been shown that is a good approach to overcome the small sample problem, and the machinery of it is to randomly select a batch of subspaces to train different classifiers ...[expand](#)

[A Multi-agent Based Architecture for an Assistive User Interface of Intelligent Home Environment Control](#)

[Chih-Hsien Liang](#), [Wei-Sheng Hung](#), [Ming-Che Hsieh](#), [Chung-Min Wu](#), [Chin-Hsing Luo](#)

Pages: 335-338

doi> [10.1109/ISDA.2008.320](#)

Available formats:  [Publisher Site](#)

This study proposes a multi-agent based architecture to support the intelligent home environment (IHE) control with an assistive user interface. The architecture is composed of six different agents (including assistive user interface, broke, appliance ...[expand](#)

[Spoken Dialogue Agent Interface Requirements Modeling Based on PASSI Methodology](#)

[Ming-Che Hsieh](#), [Wei-Sheng Hung](#), [Shin-Shing Shin](#), [Shu-Wen Lin](#), [Tsai-Hsun Huang](#)

Pages: 339-342

doi> [10.1109/ISDA.2008.342](#)

Available formats:  [Publisher Site](#)

This study presents a spoken dialogue agent interface requirements modeling approach based on PASSI methodology with the support of PTK CASE tool. Our approach is composed of three models, including the dialogue agent requirements, the dialogue agent ...[expand](#)

[An Intelligent Brain Computer Interface of Visual Evoked Potential EEG](#)

[Shih-Chung Chen](#), [Shih-Chang Hsieh](#), [Chih-Kuo Liang](#)

Pages: 343-346

doi> [10.1109/ISDA.2008.339](#)

Available formats:  [Publisher Site](#)

The goal of our research is to design an EEG BCI (Brain Computer Interface) system and develop techniques for helping the serious disabled with spine/central nerve injury, motor neuron disease or without upper limb/foot. In our research, the brain wave ...[expand](#)

[A Multi-agent Based Testbed for Agent Interface Evaluation](#)

[Chung-Min Wu](#), [Ming-Che Hsieh](#), [Chin-Hsing Luo](#)

Pages: 347-350

doi> [10.1109/ISDA.2008.343](#)

Available formats:  [Publisher Site](#)

This study proposes a conceptual model of testbed to support multimodal interaction evaluation throughout the agent-based user interfaces development. Taking into account the Neimo system's requirements, the conceptual model consists of human test subject, ...[expand](#)

[CCSDS Advanced Orbiting Systems, Data Links Protocol: Study on Virtual Channels Scheduling Algorithm](#)

[Qingli Liu](#), [Chengsheng Pan](#), [Guoren Wang](#), [Wei Liu](#)

Pages: 351-355

doi> [10.1109/ISDA.2008.158](#)

Available formats:  [Publisher Site](#)

With the development of space communication systems, the transferred data have varied from traditional asynchronous data to mixed data of synchronous and asynchronous data. Synchronous data, such as video and audio, need to be transmitted in high real-time ...[expand](#)

[Application of Neural Network Techniques on Nonlinear Channel Equalization for 16-QAM Modulation Systems](#)

[Chun-Yi Lo](#), [Wan-de Weng](#)

Pages: 356-361

doi> [10.1109/ISDA.2008.12](#)

Available formats:  [Publisher Site](#)

The design of a Chebyshev functional link artificial neural networks (CFLANN) based channel equalizer in digital communication systems is discussed in this paper. The design has been successfully applied to digital communication systems in which 16-QAM ...[expand](#)

[Using Chi-Square Automatic Interaction Detector to Solve the Polysemy Problems in a Chinese to Taiwanese TTS System](#)

[Yih-Jeng Lin](#), [Ming-Shing Yu](#), [Chin-Yu Lin](#)

Pages: 362-367

doi> [10.1109/ISDA.2008.78](#)

Available formats:  [Publisher Site](#)

We use chi-square automatic interaction detector (CHAID) to solve the polysemy problems in a Chinese to Taiwanese TTS system in this paper. Polysemy means there are words with more than one meaning or pronunciation, such as "我們"(we), "不"(no), ...[expand](#)

[Intelligent Focus+Context Volume Visualization](#)

[Cheng-Kai Chen](#), [Russell Thomason](#), [Kwan-Liu Ma](#)

Pages: 368-374

doi> [10.1109/ISDA.2008.232](#)

Available formats:  [Publisher Site](#)

Although graphics processing unit (GPU) acceleration makes possible interactive volume rendering, successful volume visualization relies on the ability to quickly and correctly classify the volume into different materials or features. Among various classification ...[expand](#)

[An Exploratory Study on Malay Processing Tool for Acquisition of Taxonomy Using FCA](#)

[Mohd Zakree Ahmad Nazri](#), [Siti Mariyam Shamsudin](#), [Azuraliza Abu Bakar](#)

Pages: 375-380

doi>[10.1109/ISDA.2008.254](https://doi.org/10.1109/ISDA.2008.254)

Available formats:  [Publisher Site](#)

In an effort to develop a tool for automatic ontology building from Malay text based on Formal Concept Analysis, an effective natural language processing (NLP) tool as the pre-processing components is needed. The goal of the study is to investigate whether ...[expand](#)

[Using MPE with Bayesian Network for Sub-optimization to Entropy-Based Methodology](#)

[Bor-Chen Kuo](#), [Tien-Yu Hsieh](#), [Hsuan-Po Wang](#)

Pages: 381-386

doi>[10.1109/ISDA.2008.108](https://doi.org/10.1109/ISDA.2008.108)

Available formats:  [Publisher Site](#)


Many researchers show that the properties of Bayesian network and information theory such as entropy between dichotomous concepts and test items generalize some common intuitions about item comparison, and provide principled foundational to design item-selection ...[expand](#)

[The Empirical Study of Fuzzy Performance Appraisal Applied on Securities Brokerage](#)

[Tien-Tsai Huang](#), [Chien-Yi Chen](#)

Pages: 389-392

doi>[10.1109/ISDA.2008.147](https://doi.org/10.1109/ISDA.2008.147)

Available formats:  [Publisher Site](#)

This paper proposes a new fuzzy appraisal of securities operating performance model (FASOP). According to the available literatures, performance appraisal of securities brokerage are commonly acquired through questionnaires with sampling, processed by ...[expand](#)

[Composite Shewhart-Poisson GWMA Control Chart with Sensitizing Rules](#)

[Tse-Chieh Lin](#)

Pages: 393-396

doi>[10.1109/ISDA.2008.328](https://doi.org/10.1109/ISDA.2008.328)

Available formats:  [Publisher Site](#)

To enhance the detection ability of the Poisson GWMA control chart, this work uses the composite Shewhart-Poisson GWMA control chart to monitor Poisson counts to detect small shifts more quickly. The Shewhart-Poisson GWMA control chart uses numerical ...[expand](#)

[Fuzzy Multiple Objective Programming Based on Interval-Valued Fuzzy Sets](#)

[Teng-San Shih](#), [Huey-Ming Lee](#), [Jin-Shieh Su](#)

Pages: 397-402

doi>[10.1109/ISDA.2008.88](https://doi.org/10.1109/ISDA.2008.88)

Available formats:  [Publisher Site](#)


In this paper, we use the interval-valued fuzzy sets to derive linear programming in the fuzzy sense from crisp multiple objective programming. For many practical problems, if we just used the general fuzzy sets, it may not be quite well to describe ...[expand](#)

[Genetic Optimization for Benefit-Oriented Data Broadcast in T-Learning Environments](#)

[Chao-Chun Chen](#), [Yong-Ming Huang](#), [Lien-Fa Lin](#), [Ding-Chau Wang](#)

Pages: 403-408

doi>[10.1109/ISDA.2008.128](https://doi.org/10.1109/ISDA.2008.128)

Available formats:  [Publisher Site](#)

Ubiquitous learning receives much attention in these few years due to its wide spectrum of applications, such as the T-learning application. The learner can use mobile devices to watch the digital TV based course content, and thus, the T-learning provides ...[expand](#)

[Term Weighting Approaches for Text Categorization Improving](#)

[L. A. Matsunaga](#), [N. F. F. Ebecken](#)

Pages: 409-414

doi>[10.1109/ISDA.2008.21](https://doi.org/10.1109/ISDA.2008.21)

Available formats:  [Publisher Site](#)

The objective of the text categorization problem examined in this paper corresponds to automatically distribute the legislative bills to the committees at the Federal District Legislative Assembly in Brasília, Brazil. For this study the replacement ...[expand](#)

[Using Semi-discrete Decomposition for Topic Identification](#)

[Václav Snášel](#), [Pavel Moravec](#), [Jaroslav Pokorný](#)

Pages: 415-420

doi>[10.1109/ISDA.2008.62](https://doi.org/10.1109/ISDA.2008.62)

Available formats:  [Publisher Site](#)


In the area of information retrieval, the dimension of document vectors plays an important role. We may need to find a few words or concepts, which characterize the document based on its contents, to overcome the problem of the "curse of dimensionality", ...[expand](#)

[Implementation of an Intelligent HLA-Compliant Application Layer Gateway for Real-Time Flight Simulation](#)

[Kuo-Wei Meng](#), [Ming-Chuan Hung](#), [Don-Lin Yang](#), [Yeh-Ching Chung](#)

Pages: 421-426

doi>[10.1109/ISDA.2008.51](https://doi.org/10.1109/ISDA.2008.51)

Available formats:  [Publisher Site](#)

This paper describes the implementation of an intelligent application layer gateway for the traditional training simulator to connect with other simulators using the High Level Architecture (HLA). The HLA is the latest open distributed interactive simulation ...[expand](#)

[Fuzzy Logic on Representation of Knowledge Structure and Measure of Similarity with Application on Mathematics Concepts for Pupils](#)

Yuan-Horng Lin, He-Kai Chen, Wen-Liang Hung

Pages: 427-431

doi> [10.1109/ISDA.2008.195](#)Available formats:  [Publisher Site](#)

The purpose of this study is to investigate the knowledge structure representation based on fuzzy theory. With response data and item-concept matrix, the psychometric model item response theory (IRT) is used to calibrate latent trait and fuzzy logic ...[expand](#)

[The Influence of Order on a Large Bag of Words](#)

Charles B. Prado, Felipe M. G. França, Ramon Diacovo, Priscila M. V. Lima

Pages: 432-436

doi> [10.1109/ISDA.2008.299](#)Available formats:  [Publisher Site](#)

Text classification has been mostly performed through implicit semantic correlation techniques, such as latent semantic analysis. This approach however, has proved insufficient for situations where there are short texts to be classified into one or more ...[expand](#)

[Improving VG-RAM WNN Multi-label Text Categorization via Label Correlation](#)

Alberto F. De Souza, Claudine Badue, Bruno Zanetti Melotti, Felipe T. Pedroni, Fernando Libio L. Almeida

Pages: 437-442


doi> [10.1109/ISDA.2008.298](#)Available formats:  [Publisher Site](#)

In multi-label text databases one or more labels, or categories, can be assigned to a single document. In many such databases there can be correlation on the assignment of subsets of the set of categories. This can be exploited to improve machine learning ...[expand](#)

[An Incremental FUSP-Tree Maintenance Algorithm](#)

Chun-Wei Lin, Tzung-Pei Hong, Wen-Hsiang Lu, Wen-Yang Lin

Pages: 445-449


doi> [10.1109/ISDA.2008.126](#)Available formats:  [Publisher Site](#)

In this paper, we attempt to handle the maintenance of sequential patterns. New transactions may come from both the new customers and old customers. A fast updated sequential pattern tree (called FUSP-tree) structure is proposed to make the tree update ...[expand](#)

[An Evolution-Based Dynamic Scheduling Algorithm in Grid Computing Environment](#)

Kun-Ming Yu, Cheng-Kwan Chen

Pages: 450-455

doi> [10.1109/ISDA.2008.153](#)Available formats:  [Publisher Site](#)

Grid computing can integrate computational resources from different networks or regional areas into a high performance computational platform and be used to solve complex computing-intensive problems efficiently. Scheduling problem is an important issue ...[expand](#)

[A Data Grid File Replication Maintenance Strategy Using Bayesian Networks](#)

Chao-Tung Yang, Chien-Jung Huang, Ting-Chih Hsiao

Pages: 456-461

doi> [10.1109/ISDA.2008.357](#)Available formats:  [Publisher Site](#)

Data grids are a very important and useful technique for solving problems created by the large amounts of data scientific experiments and simulations produce. Data replication, a technique much discussed by data grid researchers in past years, creates ...[expand](#)

[A Fast Elastic Net Method for Traveling Salesman Problem](#)

Junyan Yi, Weixing Bi, Gang Yang, Zheng Tang

Pages: 462-467


doi> [10.1109/ISDA.2008.52](#)Available formats:  [Publisher Site](#)

In this paper, we proposed a fast method for improving the Elastic Net to solve the traveling salesman problem. A dynamic parameter strategy is introduced into the Elastic Net, which increases the ability of searching for the cities and helps the network ...[expand](#)

[A Dynamic Weighting Scheme for Providing Fair Communication Service to Nomadic Agents](#)

SangWon Rhee, Kyu-Yeong Jeon, Sung Keun Song, Hyung Su Lee, Hee Yong Youn

Pages: 468-473


doi> [10.1109/ISDA.2008.296](#)Available formats:  [Publisher Site](#)

In multi-agent system the goal is achieved by the collaboration of the agents. The communication between the agents over the existing network infrastructure is typically 'best effort', and as a result, the agents might receive different QoS. In this ...[expand](#)

[Bounded PSO Vmax Function in Neural Network Learning](#)

Y. S. Lee, S. M. Shamsuddin, H. N. Hamed

Pages: 474-479

doi> [10.1109/ISDA.2008.156](#)Available formats:  [Publisher Site](#)

Typically, Back propagation (BP) algorithm is the most widespread technique in Artificial Neural Network (ANN learning). However, major disadvantages of BP are due to its convergence rate sluggishness and always being trapped at the local minima. Consequently, ...[expand](#)

[Solution of Fuzzy Relational Equation by Real-Valued GA](#)

[Leh Luoh](#)

Pages: 480-484

doi> [10.1109/ISDA.2008.297](#)

Available formats:  [Publisher Site](#)


Solving fuzzy relational equation (F.R.E) is a very important research topic because many practical problems end up with F.R.E. Most theoretical results on F.R.E. strongly rely on an assumption that the family of exact solutions is nonempty. However, ...[expand](#)

[Applying Experimental Statistical Method for the Preparation of Nanometric-Sized LiNi0.8Co0.2O2 Powders as a Cathode Material for Lithium Batteries](#)

[Ching-Shieh Hsieh](#), [Hsin-Ya Huang](#), [Hui-Ling Fang](#), [Wein-Duo Yang](#)

Pages: 485-488

doi> [10.1109/ISDA.2008.212](#)

Available formats:  [Publisher Site](#)


Nanometric-sized LiNi0.8Co0.2O2 powders were obtained from the resins synthesized by the polymerization of citric acid and cellulose. The powder calcined at 600 oC exhibited a pure high temperature phase of LiNi0.8Co0.2O2. The surface response method ...[expand](#)

[An Approach of Chunk Parsing and Entity Relation Extracting to Chinese Based on Conditional Random Fields Model](#)

[Jun-hua Wu](#), [Jing Zhou](#)

Pages: 489-494

doi> [10.1109/ISDA.2008.225](#)

Available formats:  [Publisher Site](#)

Conditional random fields (CRFs) model is the valid probabilistic model to segment and label sequence data[1]. Comparing with other statistical models, such as HMM, MEHMM, CRFs process the data sequence in terms of the context of data. Chunk analysis ...[expand](#)

[Earthquake Shelter Location Evaluation Considering Road Structure](#)

[Yung-Lung Lee](#), [Hiroaki Ishii](#), [Cheng-An Tai](#)

Pages: 495-497

doi> [10.1109/ISDA.2008.204](#)

Available formats:  [Publisher Site](#)

This study aims to propose a simple calculation method considering road network factors and summarized into 6 indexes for evaluation. Shin-hua Township in Tainan County is selected for case study. Firstly factor analysis is used for the key factors affecting ...[expand](#)

[Finding the Complete Set of Minimal Solutions for Fuzzy Max-Archimedean t-Norm Relational Equations](#)

[Jun-Lin Lin](#)

Pages: 501-506

doi> [10.1109/ISDA.2008.80](#)

Available formats:  [Publisher Site](#)

This study considers the problem of generating all minimal solutions of a system of fuzzy relational equations (FREs) with max-Archimedean t-norm composition. It defines the binding matrix of a system of FREs, and then shows that an irredundant covering ...[expand](#)

[An Authentication Scheme in Peer-to-Peer Based Live Stream Sharing Management Systems](#)

[Shiuh-Jeng Wang](#), [Yuh-Ren Tsai](#), [Pin-You Chen](#)

Pages: 507-512

doi> [10.1109/ISDA.2008.132](#)

Available formats:  [Publisher Site](#)


Peer-to-peer based live stream sharing platform is a novel technique for distributing visual data. Because of developments in computer equipment and network service, viewers can watch shows via the Internet rather than through the conventional broadcasted ...[expand](#)

[Interactive Mining of Frequent Patterns in a Data Stream of Time-Fading Models](#)

[Ming-Yen Lin](#), [Sue-Chen Hsueh](#), [Chung-Yi Wang](#)

Pages: 513-518

doi> [10.1109/ISDA.2008.178](#)

Available formats:  [Publisher Site](#)

Mining frequent itemsets in data streams is an emergent research topic. Previous approaches generally assume a fixed minimum support threshold on mining patterns in the stream. However, allowing users to interactively specify minimum supports is more ...[expand](#)

[Hierarchical P2P Networking and Two-Level Compression Scheme for Multi-agent System Supporting Context-Aware Applications](#)

[Joon Hwang Kim](#), [Jeong Hun Chu](#), [Seungwok Han](#), [Chang Won Park](#), [Hee Yong Youn](#)

Pages: 519-524

doi> [10.1109/ISDA.2008.332](#)

Available formats:  [Publisher Site](#)

Ubiquitous computing requires an intelligent environment where the users do not need to be involved in the operation. The agent technology allows effective implementation of ubiquitous system, while agent platform provides efficient and stable interaction ...[expand](#)

[Segmentation of Brain Internal Structures Automatically Using Non-rigid Registration with Simultaneous Intensity and Geometric Match](#)

[Xiangbo Lin](#), [Tianshuang Qiu](#), [Su Ruan](#), [Frederic Morain-Nicollier](#)

Pages: 525-530

doi>[10.1109/ISDA.2008.87](#)

Available formats:  [Publisher Site](#)


Segmentation of the brain internal structures is an important and a challenging task due to their small size, partial volume effects, and anatomical variability. In this paper we propose a method that segments automatically the deep brain internal structures ...[expand](#)

[Detection of the Cardiovascular Diseases by Using a Linearly Modeling System with the PSO-Based Classification Scheme](#)

[Meng-Cheng Shen](#), [Heng-Chou Chen](#), [Chih-Hui Chen](#)

Pages: 531-536

doi>[10.1109/ISDA.2008.240](#)

Available formats:  [Publisher Site](#)

In general, the detection of cardiovascular disease is performed by ECG, Electrocardiogram, to dynamically monitor and analyze the disease status. Additionally, ECG is also used to diagnose the latent disease to proceed with a further treatment. Therefore, ...[expand](#)

[NOx Estimation Based on Flame Image of High Temperature Air Combustion](#)

[Zengshou Dong](#), [Mingjun Liu](#), [Fengchun Zhang](#)

Pages: 537-541

doi>[10.1109/ISDA.2008.41](#)

Available formats:  [Publisher Site](#)


By the analysis of NOx formation principle in the coal-fired process of power station boiler, the boiler operation parameter related with NOx emission are determinate. Then the furnace temperature field is gained by using combustion flame image processing ...[expand](#)

[Location Tracking with Power-Level Switching for Wireless Sensor Networks](#)

[Hung-Chi Chu](#), [Chung-Jie Li](#), [Ching-Yun Chen](#), [Hong-Wen Yu](#)

Pages: 542-547

doi>[10.1109/ISDA.2008.174](#)

Available formats:  [Publisher Site](#)

In wireless sensor networks, object tracking is one of the important topics in research of wireless sensor networks. However, the core technology of object tracking is the positioning technique. In recent years, many positioning methods have been proposed. ...[expand](#)

[Traffic Identification of Tor and Web-Mix](#)

[Xuefeng Bai](#), [Yong Zhang](#), [Xiamu Niu](#)

Pages: 548-551

doi>[10.1109/ISDA.2008.209](#)

Available formats:  [Publisher Site](#)

With the wide use of anonymity tools, both blocking and anti-blocking of these tools have become hot topics. And the traffic identifications of the corresponding tools are key issues of both blocking and anti-blocking. In this paper, we address on identifying ...[expand](#)

[Experiments with Boosted Decision Tree Classifiers](#)

[Michal Wozniak](#)

Pages: 552-557

doi>[10.1109/ISDA.2008.215](#)

Available formats:  [Publisher Site](#)

Boosting is the most popular method of improving quality and stabilizing weak classifiers. It bases on the voting by the group of classifiers, where each of them is generated on the basis of modified original learning set. The modification of AdaBoost.M1 ...[expand](#)

[Cooperative Collision Warning Based Highway Vehicle Accident Reconstruction](#)

[Chung-Ping Young](#), [Bao Rong Chang](#), [Jian-Jr Lin](#), [Ren-Yang Fang](#)

Pages: 561-565

doi>[10.1109/ISDA.2008.358](#)

Available formats:  [Publisher Site](#)

Highway safety is always an important issue for automobile industry, so many researches have been conducted to prevent from or reduce the accidents. Cooperative Collision Warning (CCW), which provides an active safety mechanism for vehicles on highways, ...[expand](#)

[Design of an In-vehicle Anti-theft Component](#)

[Jung-Hsuan Wu](#), [Chien-Chuan Kung](#), [Jhan-Hao Rao](#), [Pang-Chieh Wang](#), [Cheng-Liang Lin](#), [Ting-Wei Hou](#)

Pages: 566-569

doi>[10.1109/ISDA.2008.188](#)

Available formats:  [Publisher Site](#)


An in-vehicle anti-theft approach, named GIVAC (Group Identification of in-Vehicle Anti-theft Component), is proposed. The approach proposes that each valuable appliance should be integrated with an GIVAC component which will not enable the functions ...[expand](#)

[Point Clouds Construction Algorithm from a Home-Made Laser Scanner](#)

[Bagus Arthaya](#), [Irwan Gunawan](#), [Hendra Gunawan](#)

Pages: 570-575


doi>[10.1109/ISDA.2008.231](#)

Available formats:  [Publisher Site](#)

Reverse Engineering (RE) technique is now becoming an emerging technology for modeling a physical part into a digital model. This is eventually required when one has to redesign an old product or to remanufacture a non-filed engineering product. This ...[expand](#)

[The Novel Fuzzy Sliding Mode Control of Synchronous Reluctance Motor](#)[Chien-An Chen](#), [Huann-Keng Chiang](#), [Chih-Huang Tseng](#)


Pages: 576-581

doi> [10.1109/ISDA.2008.33](#)Available formats:  [Publisher Site](#)

This paper presents a fuzzy sliding mode speed control design procedure for robust stabilization and disturbance rejection of the synchronous reluctance motor (SynRM) drive system. In general, the conventional sliding mode control design is assumed that ...[expand](#)

[Immune System Assisted Radial Basis Function Network for OFDM System Channel Tracking in Dynamic Environments](#)[Jingchen Liu](#), [Xiaogang Zang](#), [Xinbao Gong](#)


Pages: 582-586

doi> [10.1109/ISDA.2008.36](#)Available formats:  [Publisher Site](#)

In this paper, we develop an immune system assisted radial basis function (RBF) neural network for wireless channel tracking in pilot-added orthogonal frequency-division multiplexing (OFDM) systems. The RBF network is applied to approximate and follow ...[expand](#)

[Rough Set Granularity in Mobile Web Pre-caching](#)[Sarina Sulaiman](#), [Siti Mariyam Shamsuddin](#), [Ajith Abraham](#), [Shahida Sulaiman](#)

Pages: 587-592

doi> [10.1109/ISDA.2008.273](#)Available formats:  [Publisher Site](#)

Mobile Web pre-caching (Web prefetching and caching) is an explication of performance enhancement and storage limitation of mobile devices. In this paper, we present the granularity of Rough Sets (RS) and RS based Inductive Learning in reducing the size ...[expand](#)

[The Innovation of Manufacturing Premise Based on Knowledge Obtained by Quality Accident Report](#)[Shujiro Murayama](#), [Junko Shibata](#), [Koji Okuhara](#), [Hiroaki Ishii](#)

Pages: 593-598

doi> [10.1109/ISDA.2008.260](#)Available formats:  [Publisher Site](#)

The accident (manufacturing mistake) in production line gives a large influence on the production cost. The number of enterprises recognizing the accident should be managed through company risk management process is increasing. However in those circumstances, ...[expand](#)

[Categorizing Heartbeats by Independent Component Analysis and Support Vector Machines](#)[Kuan-To Chou](#), [Sung-Nien Yu](#)

Pages: 599-602

doi> [10.1109/ISDA.2008.236](#)Available formats:  [Publisher Site](#)

We propose a method that utilizes independent component analysis (ICA) and support vector machines to classify electrocardiogram (ECG) beats. In this study, ICA is used to dig up underlying components from ECG signals. A classifier constructed by support ...[expand](#)

[Wavelet-Based Bispectra for Motor Rotor Fault Detection](#)[D.-M. Yang](#)

Pages: 603-607

doi> [10.1109/ISDA.2008.23](#)Available formats:  [Publisher Site](#)

Wavelet-based bispectral analysis is addressed for condition monitoring of induction machines. This advanced signal processing technique combining wavelet analysis and bispectral techniques allows the detection and characterization of non-Gaussian and ...[expand](#)

[An Approach for Achieving Self-Optimization in Mechatronic Systems Supported by Active Patterns](#)[J. Gausemeier](#), [O. Znamenshchikov](#), [S. Oberthür](#), [H. Podlogar](#)

Pages: 608-613

doi> [10.1109/ISDA.2008.239](#)Available formats:  [Publisher Site](#)

The conceivable development of information technology will enable mechatronic systems with inherent partial intelligence. We refer to this by using the term "self-optimization". Self-optimizing systems react autonomously and flexibly on changing environmental ...[expand](#)

[Intelligent Stock Selecting via Bayesian Naive Classifiers on the Hybrid Use of Scientific and Humane Attributes](#)[Tien-Tsai Huang](#), [Chir-Ho Chang](#)


Pages: 617-621

doi> [10.1109/ISDA.2008.148](#)Available formats:  [Publisher Site](#)

Among all kinds of investment activities, security's transaction is an important activity among all investors' involvements in the past decade. How to find out the relationships between a security's name, price, trading quantity, and/or other scientific ...[expand](#)

[The Neural Network Algorithm for Data-Mining in Dynamic Environments](#)[Ching Lien Huang](#), [Tsung-Shin Hsu](#), [Chih-Ming Liu](#)

Pages: 622-625

doi> [10.1109/ISDA.2008.282](#)Available formats:  [Publisher Site](#)


This work presents a novel algorithm, the Artificial Neural Network (ANN) algorithm, which can solve the parameter selections under a dynamic environment for product parameter design. The utility of the algorithm is assessed the ANN links parameters ...[expand](#)

[Fuzzy Assessment for Sampling Survey Defuzzification by Signed Distance Method](#)

[Lily Lin](#), [Huey-Ming Lee](#)

Pages: 626-630

doi> [10.1109/ISDA.2008.109](#)

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Traditional sampling survey via questionnaire is difficult in reflecting interviewee's incomplete assessment and uncertain thought. Therefore, if we can use fuzzy sense of sampling to express the degree of interviewee's feelings based on his own concept, ...[expand](#)

[Neural Network for Routing in a Directed and Weighted Graph](#)

[Mehran Ghaziasgar](#), [Armin Tavakoli Naeini](#)

Pages: 631-636

doi> [10.1109/ISDA.2008.164](#)

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In this paper, we use a neural network based algorithm to find the best path in a directed and weighted graph. In this algorithm, we define a suitable energy function; the minimum of this function correspond to the best path. By using gradient descent ...[expand](#)

[Petri Net Based Synthesis Method to Construct Optimal Controllers and Its Application to a Jobshop Scheduling](#)

[Eun Joo Lee](#), [In-Jae Jeong](#), [Jeehyoung Lee](#)

Pages: 637-642

doi> [10.1109/ISDA.2008.193](#)

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The goal of this paper is to propose a design method of closed-loop Petri net model respecting user specifications. We propose a synthesis method for optimal controllers based on the supervisory control and the Petri nets formalism. By proposed the method, ...[expand](#)

[Reactive Planning with Weak Plan Instances](#)

[Frantisek Zboril Jr.](#), [Vladimir Janousek](#), [Radek Koci](#), [Zdenek Mazal](#)

Pages: 643-648

doi> [10.1109/ISDA.2008.266](#)

Available formats:  [Publisher Site](#)

Reactive planning serves for fast but intelligent reasoning of intelligent artificial agents. In this paper we show some weak spots of such kind of planning together with our approach how to solve them. To be specific, we present our preliminary work ...[expand](#)

[The Design of a Quality Control System of PCB with SMT Based on RFID and AOI](#)

[Shih-Che Lo](#), [Bei-Ming Li](#)

Pages: 649-653

doi> [10.1109/ISDA.2008.70](#)

Available formats:  [Publisher Site](#)

This research combines Radio Frequency Identification (RFID) and computer vision technology to assist printable circuit board (PCB) production line with quality control management. The proposed system relies on RFID tags offering ubiquitous computing ...[expand](#)

[Architecture Centric Approach to Enhance Software Testing Management](#)

[Fu-Shiau Li](#), [Wei-Ming Ma](#), [Architect Chao](#)

Pages: 654-659

doi> [10.1109/ISDA.2008.116](#)

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Schedule is always running tight during the software system development, thereafter reducing efforts of performing software testing management. In such a situation, improving software quality becomes an impossible mission. It is our belief that software ...[expand](#)

[Fault Diagnosis of Generator Based on D-S Evidence Theory](#)

[Qingdong Du](#), [Jin Li](#), [Xiao Chen](#)

Pages: 660-663

doi> [10.1109/ISDA.2008.206](#)

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It is difficult to identify the fault type with the signal gathered from the sensors. In this paper, a new fusion algorithm based on the Dempster-Shafer theory of evidence and neural networks is brought forward. This method combines the advantages of ...[expand](#)

[FCM-Based RBF Network in Identifying Concrete Slab Surface Cracks](#)

[Young Woon Woo](#), [Doo Heon Song](#), [Kwang-Baek Kim](#)

Pages: 664-669

doi> [10.1109/ISDA.2008.191](#)



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In this paper, we propose a novel method that automatically extracts characteristics of cracks such as length, thickness and direction, etc., from a concrete surface image with a series of image processing techniques. We use the closing morphologic operation ...[expand](#)

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Pages: 671-675

doi> [10.1109/ISDA.2008.379](#)

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