

# **2012 IEEE International Conference on Systems, Man, and Cybernetics**

**(SMC 2012)**

**Seoul, South Korea  
14 – 17 October 2012**

**Pages 1-802**



**IEEE Catalog Number: CFP12SMC-PRT  
ISBN: 978-1-4673-1713-9**

# Table of Contents

## MoAR01-Special Session: Grey System - Theory and Applications

Grey Incidence Analysis on Influence Factors of University Volleyball Teams' Performance .....	1
<i>Qi Yang, Wei Chen</i>	
Performance Evaluation with Cost Estimation for Supervised Systems .....	6
<i>Jasen Markovski</i>	
Research on The Selection of Strategic Supplier based on Grey Relation and Multi Level Fuzzy Evaluation in The Electronics Industry .....	12
<i>Weiwei Zheng, Lei Zhao</i>	
Functional Model for Zero-sum Game and Its Matrix Solution Concerning Uncertain Information .....	17
<i>Zhigeng Fang, Yuan Liu, Sifeng Liu, Hongzhan Chen</i>	
The Key Role of Psychological Empowerment in Boundary Employee Units Based on Gray Preference .....	24
<i>Jianling Wang, Lirong Jian</i>	

## MoAR02-Session: Intelligent Systems and Control I

Route Allocation for Multiple Snowplows Using Genetic Algorithms .....	29
<i>T. M. Rao, Sandeep Mitra, James Zollweg</i>	
Optimized Audit Evidence Gathering Method based on Data Matching using Length-filtering .....	35
<i>Wei Chen, Xian Shi, Wally Smieliauskas</i>	
A New Slip Ratio Observer and Its Application in Electric Vehicle Wheel Slip Control .....	41
<i>Bo-Rong Liang, Wei-Song Lin</i>	
Kinematic Analysis and Control of limited 4-DOF Parallel Manipulator Based on Screw Theory .....	47
<i>Khalil Ibrahim, Ahmed Ramadan, Mohamed Fanni, Yo Kobayashi, Ahmed Abo Ismail, Masakatus Fujie</i>	
Map Merging of Multi-Robot SLAM using Reinforcement Learning .....	53
<i>Pierre Dinnissen, Sidney Givigi, Howard Schwartz</i>	
Sliding-Mode Tracking Control for Uncertain Mobile Robots .....	61
<i>Chieh-Chuan Feng</i>	

## MoAR03-Session: Biological Systems and Evolution

Counting and Radius Estimation of Lipid Droplet in Intracellular Images .....	67
<i>Shohei Kumagai, Kazuhiro Hotta</i>	
Set Membership State and Parameter Estimation for Nonlinear Differential Equations with Sparse Discrete Measurements .....	72
<i>Skylar Marvel, Cranos Williams</i>	

Evolution Dynamics of In Vitro Cultures of Neurons in MultiElectrode Array - MEA .....	78
<i>Mayra Zegarra Rodriguez, Emerson Carlos Pedrino, Jose Hiroki Saito, Joao Batista Destro Filho</i>	
Biologically Inspired Swarm Robotic Network Ensuring Coverage and Connectivity .....	84
<i>Emi Mathews, Tobias Graf, Kosala Kulathunga</i>	
Sensing Oscillations in Unsteady Flow for Better Robotic Swimming Efficiency .....	91
<i>Jaas Jezov, Otar Akanyeti, Lily Chambers, Maarja Kruusmaa</i>	

### MoAR04-Session: Best Student Paper Award Presentation Session

On the Conjugate Gradients (CG) Training Algorithm of Fuzzy Neural Networks (FNNS) via Its Equivalent Fully Connected Neural Networks (FFNNs) .....	2446
<i>Jing Wang, C. L. Philip Chen, Chi-Hsu Wang</i>	
Intelligent Adaptive Steering Control for Electric Unicycles .....	2457
<i>Yi-Yu Li, Ching-Chih Tsai, Chih-Min Lin</i>	
Recognizing Temporary Changes on Highways for Reliable Autonomous Driving .....	3027
<i>Young-Woo Seo, David Wettergreen, Wende Zhang</i>	
Effects of Unreliable Automation in Scheduling Operator Attention for Multi-Robot Control .....	321
<i>Shih-Yi Chien, Siddharth Mehrotra, Michael Lewis, Katia Sycara</i>	
Robust Feature Extraction for Novelty Detection based on Regularized Correntropy Criterion .....	975
<i>Huan-Ru Ren, Hong-Jie Xing</i>	
New Region Feature Descriptor-based Image Registration Method .....	2489
<i>Francis Bowen, Eliza Du, Jianghai Hu</i>	

### MoAR05-Special Session: Innovative Softcomputing Methodologies and Applications I

Interactive Fuzzy Decision Making for Multiobjective Stochastic Linear Programming Problems with Variance-Covariance Matrices .....	97
<i>Hitoshi Yano</i>	
A New Cooperative Particle Swarm Optimizer with Dimension Partition and Adaptive Velocity Control .....	103
<i>Wei-Po Lee</i>	
A Generation Method of Filtering Rules of Twitter Via Smartphone Based Participatory Sensing System for Tourist by Interactive GHSOM and C4.5 .....	110
<i>Takumi Ichimura, Shin Kamada</i>	
A Method Using Acoustic Features to Detect Inadequate Utterances in Medical Communication .....	116
<i>Michihisa Kurisu, Kazuya Mera, Ryunosuke Wada, Yoshiaki Kurosawa, Toshiyuki Takezawa</i>	
Experiments of Displaying Images to Keep the Motivation in E-learning .....	120
<i>Masakazu Takeue, Kazutoshi Shimada, Kenichi Takahashi, Michimasa Inaba</i>	
Knowledge Acquisition on Selection of Humanities and Sciences Using the Decision Tree .....	126
<i>Yuta Notsuda, Kenichi Takahashi</i>	

## MoAR06-Session: Pattern Recognition

Automatic Image Segmentation of Old Topographic Maps and Floor Plans .....	132
<i>Carlos Mello, Diogo Costa, Tiago Santos</i>	
Guide Mutation Operation Based on Search Degree and Fitness Estimation .....	138
<i>Liang Yin, Jun Zhang</i>	
Detecting Intermittent Steering Activity: Development of a Phase-detection Algorithm .....	144
<i>Hugo M. Da Silva Peixotode Aboim Chaves, Jasper A. Pauwelussen, Mark Mulder, Marinus M. van Paassen, Riender Happee, Max Mulder</i>	
Adaptive Multilayer Generalized Learning Vector Quantization (AMGLVQ) as New Algorithm with Integrating Feature Extraction and Classification for Arrhythmia Heartbeats Classification .....	150
<i>Elly Imah, Wisnu Jatmiko, T. Basaruddin</i>	
HSD: A 3D Shape Descriptor based on the Hilbert Curve and a Reduction Dimensionality Approach ..	156
<i>Walter A. A. de Oliveira, Celia A. Z. Barcelos, Gilson Giraldo, Denise Guliato</i>	
Velocity-Robust Gait Recognition based on Stochastic Switched Auto-Regressive Model .....	162
<i>Dapeng Zhang, Shingiki Inagaki, Tatsuya Suzuki</i>	

## MoAR07-Session: Soft Computing I

Adaptive System of Swarm Intelligent with Genetic Algorithm for Global Optimization .....	171
<i>Hieu Pham, Hiroshi Hasegawa</i>	
A Novel Harmony Search Method with Dual Memory .....	177
<i>Xiao-Zhi Gao, Xiaolei Wang, Kai Zenger</i>	
A Bee Foraging-based Memetic Harmony Search Method .....	184
<i>Xiao-Zhi Gao, Xiaolei Wang, Kai Zenger</i>	
Possibilistic Approach to Clustering of Interval Data .....	190
<i>Bruno Pimentel, Renata de Souza</i>	
Evolving Predator Control Programs for an Actual Hexapod Robot Predator .....	196
<i>Gary Parker, Basar Gulcu</i>	
Automation Techniques for Intelligent Environments .....	202
<i>Gary Parker, David Alpert</i>	

## MoAR08-Session: Medical Imaging

Automated Classification System for Bone Age X-ray Images .....	208
<i>Jinwoo Seok, Baro Hyun, Josephine Kasa-Vubu, Anouck Girard</i>	
Automatic Assessment of Mandibular Bone Using Support Vector Machine for the Diagnosis of Osteoporosis .....	214
<i>Kavitha M.S., Takio Kurita, Akira Asano</i>	
An Efficient Technique for White Blood Cells Nuclei Automatic Segmentation .....	220
<i>Mostafa M. A. Mohamed, Behrouz Far, Amr Guaily</i>	

Beat Reordering for Optimal Electrocardiogram Signal Compression using SPIHT .....	226
<i>Sani Muhamad Isa, Wisnu Jatmiko, Aniati Murni Arymurthy</i>	
Detecting and Visualizing Cartilage Thickness without Shape Model .....	232
<i>Shengzhe Li, Xuenan Cui, Miao Yu, Hakil Kim, Kyu-Sung Kwack</i>	
Calculation of Graft Bending Angle in Anterior Cruciate Ligament Reconstruction .....	237
<i>Kouki Nagamune, Yuichiro Nishizawa, Koji Nishimoto, Yuichi Hoshino, Seiji Kubo, Ryosuke Kuroda, Masahiro Kurosaka</i>	

### MoAR09-Session: Computer Vision

Hand and Face Tracking under Occlusion with Anthropomorphic Constraints .....	242
<i>Abhishek Sen, Irene Cheng, Anup Basu</i>	
Local Region Statistical Distance Measure for Tracking in Wide Area Motion Imagery .....	248
<i>Alex Mathew, Vijayan K. Asari</i>	
Self-Occlusion Robust 3D Human Pose Tracking from Monocular Image Sequence .....	254
<i>Nam-Gyu Cho, Alan L. Yuille, Seong-Whan Lee</i>	
A modular Architecture based on Image Quality for Fingerprint Spoof Detection .....	258
<i>George D. C. Cavalcanti, Luis Filipe Pereira, Hector Pinheiro, Jose Ivson Silva, Anderson Silva, Thais Pina, Daniel Carvalho, Ing Ren Tsang</i>	
A Robust Background Modeling and Foreground Object Detection Using Color Component Analysis ..	263
<i>Wen-kai Tsai, Ming-hwa Sheu, Chung-chi Lin, Ho-En Liao</i>	

### MoAR10-Session: Brain and Body Signal Analysis

Self-Labeling for P300 Detection .....	268
<i>Sangmin Lee, Yunjun Nam, Seungjin Choi</i>	
Spectral Components of the P300 Speller Response In and Adjacent to the Hippocampus .....	274
<i>Dean Krusienski, Jerry Shih</i>	
Investigations of Capacitively-coupled EEG Electrode for Use in Brain-Computer Interface .....	278
<i>Hyun Jae Baek, Hong Ji Lee, Yong Gyu Lim, Kwang Suk Park</i>	
Epileptic EEG Signal Classification with Marching Pursuit based on Harmony Search Method .....	283
<i>Jing Wang, Xiao-Zhi Gao, Jarno M. A. Tanskanen, Ping Guo</i>	
Specific Local Sites in Activity of The Brain during Listening to Music .....	289
<i>Haruki Sumiwaka, Masaki Izutsu, Shoshiro Hatakeyama</i>	
Pattern Recognition with surface EMG Signal based Wavelet Transformation .....	295
<i>Ugur Sahin, Ferat Sahin</i>	

## MoAR11-Session: Agents and Multi-Agent Systems

Maintaining Cooperation in Homogeneous Multi-agent System .....	301
<i>Jianye Hao, Ho-fung Leung</i>	
COSA2 - A Cognitive System Architecture with Centralized Ontology and Specific Algorithms .....	307
<i>Stefan Brueggenwirth, Axel Schulte</i>	
Using Quasi-Natural Language Sentences for Supervisory Control of Multi-Robot Systems .....	315
<i>Thomas Remmersmann, Ulrich Schade, Christopher M. Schlick</i>	
Effects of Unreliable Automation in Scheduling Operator Attention for Multi-Robot Control .....	321
<i>Shih-Yi Chien, Siddharth Mehrotra, Michael Lewis, Katia Sycara</i>	
Detection Likelihood Maps for Wilderness Search and Rescue .....	327
<i>Michael Roscheck, Michael Goodrich</i>	
Human Influence of Robotic Swarms with Bandwidth and Localization Issues .....	333
<i>Steven Nunnally, Phillip Walker, Michael Lewis, Andreas Kolling, Nilanjan Chakraborty, Katia Sycara, Michael Goodrich</i>	

## MoAR12-Session: Poster Session I

Partitioning Hard Kernel Clustering Methods based on Local Adaptive Distances .....	339
<i>Marcelo Ferreira, Francisco de Carvalho</i>	
Analyzing Bilinear Neural Networks with New Curve Fitting for Application to Human Motion Analysis	345
<i>Toshio Ito, Yosuke Senta, Fumio Nagashima</i>	
PSphere-M: an Ontology Capture Method .....	353
<i>Rafael Odon, Luis Zarate, Mark Song</i>	
Depth-dependent Crossover in Genetic Program with Frequent Trees .....	359
<i>Keiko Ono, Yoshiko Hanada, Katsushi Shirakawa, Masahiro Kumano, Masahiro Kimura</i>	
Generating Facial Images Based on Interactive Genetic Algorithm and Image Morphing .....	364
<i>Qiangfu Zhao, Mayuko Akatsuka, Cheng-Hsiung Hsieh</i>	
An Interactive Method for Solving Optimization Problems with an Unknown Objective Function .....	370
<i>Kazuaki Masuda, Ayumi Shiga, Kenzo Kurihara, Nobuyuki Nishiuchi</i>	
Multi-layer Partition for Query Location Anonymization .....	378
<i>Shyue-Liang Wang, Chung-Yi Chen, I-Hsien Ting, Tzung-Pei Hong</i>	
Multivariate Chaotic Time Series Prediction based on Hierarchic Reservoirs .....	384
<i>Xinying Wang, Min Han</i>	
Three-dimensional Trajectory Mining in Hospital Information Systems .....	389
<i>Shusaku Tsumoto, Shoji Hirano</i>	
Information Granules in Medical Differential Diagnosis .....	395
<i>Shusaku Tsumoto</i>	
Using Neural Networks to Predict Cardiac Arrhythmias .....	402
<i>Roland Adams, Anthony Choi</i>	

Automated Evaluation of Fetal Cardiotocograms using Neural Network .....	408
<i>Alex Bennett, Bryan Johnson, Anthony Choi</i>	
Genetic Clustering Based on Segregation Distortion Caused by Selfish Genes .....	414
<i>Kei Ohnishi, Mario Koeppen, Chang Wook Ahn, Kaori Yoshida</i>	
Hybrid PCA-ILGC Clustering Approach for High Dimensional Data .....	420
<i>Aina Musdholifah, Siti Zaiton Mohd Hashim, Razali Ngah</i>	
A Mechanism to Improve Stereo Vision Systems in Automated Heterogeneous Platoons .....	425
<i>Mohammad Alfraheed, Alicia Droge, Max Klingender, Daniel Schilberg, Sabina Jeschke</i>	
Deterministic Model for Acute Myelogenous Leukemia Classification .....	433
<i>Monica Madhukar, Sos Aгаian, Anthony T. Chronopoulos</i>	
Interval Methods for Root-Finding of Nonlinear Equations of One Variable .....	439
<i>Sergio Galdino</i>	
Cluster-based KNN Missing Value Imputation for DNA Microarray Data .....	445
<i>Phimmarin Keerin, Werasak Kurutach, Tossapon Boongoen</i>	
Automatic System for Restoring Old Color Postcards .....	451
<i>Edward Roe, Carlos Mello</i>	
Fuzzy C-Means and Singular Value Decomposition based Through Wall Image Enhancement .....	457
<i>Muhammad Mohsin Riaz, Abdul Ghafoor</i>	
Reinforcement Learning-Based Tracking Control For Wheeled Mobile Robot .....	462
<i>Luy Nguyen Tan</i>	
Searching for Optimal Alphabet for Data Compression using Simulated Annealing .....	468
<i>Jan Platos, Pavel Kromer</i>	
Improved Group Search Optimization Based on Opposite Populations for Feedforward Networks Training with Weight Decay .....	474
<i>Luciano Pacifico, Teresa Ludermir</i>	
A Proposed normalized B-spline Density Estimator and it Application in Unsupervised Statistical Image Segmentation .....	480
<i>Atizez Hadrich, Mourad Zribi, Afif Masmoudi</i>	
Leg Joint Synergy Emerged from the Body Dynamics During Walking .....	484
<i>Seiji Toyota, Shoko Kaichida, Yoshimitsu Hashizume, Jun Nishii</i>	
Automatic Construction of An Evaluation Dataset from Wisdom of the Crowds for Information Retrieval Applications .....	490
<i>Chieh-Jen Wang, Hung-Sheng Huang, Hsin-Hsi Chen</i>	
A Weighted Variational Method for the Removal of Mixed Noise .....	496
<i>Celia A. Z. Barcelos, Emilio Z. Barcelos</i>	
Detecting Collaborative Insider Attacks in Information Systems .....	502
<i>Khanh Viet, Brajendra Panda, Yi Hu</i>	
Multi-Objective Differential Evolution with Self-Navigation .....	508
<i>Ke Li, Sam Kwong, Ran Wang, Jingjing Cao, Imre J. Rudas</i>	

Anomaly Intrusion Detection Based Upon Data Mining Techniques and Fuzzy Logic .....	514
<i>Yingbing Yu, Han Wu</i>	
Evaluation of Driving Attentiveness through Usage of Fuzzy Inference .....	518
<i>Tetsuo Miyake, Elvin Tiong Chew Lun, Ikuya Fukuyama, Takashi Imamura, Zhong Zhang</i>	
A Graph Spectrum Framework for Optimizing The Combination Process of Geometric Biclustering ...	524
<i>Zhiguan(Doris) Wang, Hong Yan</i>	
Particle Swarm Optimization with Switched Topology and Deterministic Parameters .....	530
<i>Ryosuke Sano, Takuya Shindo, Kenya Jin'no, Toshimichi Saito</i>	
Analysis of Ligand Binding Sites Using Alpha Shapes .....	536
<i>Weiqiang Zhou, Hong Yan</i>	
A Pattern Classifier for Interval-valued Data Based on Multinomial Logistic Regression Model .....	541
<i>Alberto Barros, Francisco de Carvalho, Eufrasio Lima Neto</i>	
Evolving Good Spread of Solutions with Improved Multi-objective Quantum-inspired Evolutionary Algorithm .....	547
<i>Gwo-Ruey Yu, Tzyy-Chyang Lu</i>	
A New Algorithm for Breast Segmentation in Digital Mammographic Images .....	553
<i>Carlos Mello, Thiago Tenorio</i>	
Neural Kalman Filter for Estimating Dynamic Velocity and Headway Distance in Vehicle Platoon System	559
<i>Hironori Suzuki, Takashi Nakatsuji</i>	
Guiding the Learning of Human Detector by Template Matching .....	565
<i>Shih-Shinh Huang, Chien-Yi Mao, Pei-Yung Hsiao, Yao-Ming Yu</i>	
Investigation of Smoking Related Features in Spatio-Spectral Domain on Resting-State fMRI Data Using Nonnegative Matrix Factorization .....	571
<i>Xiaoyu Ding, Jong-Hwan Lee, Seong-Whan Lee</i>	
Analysis of Theatrical Effects in Multimedia Picture Story Show .....	575
<i>Kenkichi Ishizuka, Takehisa Onisawa</i>	
PKFCM - Proximity based Kernel Fuzzy C-Means for Semi-supervised Data Clustering .....	581
<i>Li Jinbo, Chen Long</i>	
A Study on Combination of Differential Evolution and Evolution Strategy .....	587
<i>Keiichiro Yasuda, Kengo Makise, Kenichi Tamura</i>	
Improving Tractability of POMDPs by Separation of Decision and Perceptual Processes .....	593
<i>Rasool Fakoore, Manfred Huber</i>	
 <b>MoBR01-Special Session: Decision Support Systems based on Multicriteria Models</b>	
A Multicriteria Additive Model to Support Negotiation: An Application in The Construction Industry	599
<i>Fernando Schramm, Vanessa Silva, Danielle Morais</i>	
Participatory Multicriteria Decision Making Model for Hydrographic Basin Committee .....	605
<i>Natallya Levino, Danielle Morais</i>	



Quality Evaluation of Information Technology Project ? A Multicriteria Approach .....	611
<i>Lucio Silva, Ana Paula Costa</i>	
Proposed Multicriteria Model for Group Decision Support in Water Resources Planning .....	617
<i>Annielli Cunha, Danielle Morais</i>	
A MCDA Application for Selecting Which Brazilian Fruits are Best Suited to Future Contracts .....	623
<i>Danielly Freitas de Almeida, Adiel Almeida-Filho</i>	
Decision Support System for Location of Back-Up Transformers based on a Multi-Attribute P-Median Model .....	629
<i>Rodrigo Ferreira, Heldemarcio Ferreira</i>	
 <b>MoBR02-Session: Intelligent Systems and Control II</b>	
A Novel Approach for Designing Intelligent Transportation System .....	632
<i>Yi-Ping Jiang, C. L. Philip Chen</i>	
Further Progress towards a Home-Robot Companion for People with Cognitive Impairment .....	637
<i>Horst-Michael Gross, Christof Schroeter, Steffen Mueller, Michael Volkhardt, Erik Einhorn, Andreas Bley, Matthias Merten, Claire Huijnen, Herjan van den Heuvel</i>	
A Multiple Local Search Strategy in Memetic Evolutionary Computation for Multiobjective Robust Control Design .....	645
<i>Jiaqi Liu, Xiao-Zhi Gao, Kai Zenger, Xiaolei Wang</i>	
An Asymmetrical and Quadratic Support Vector Regression Loss Function for Beirut Short Term Load Forecast .....	651
<i>Mel Stockman, Randa El Ramly, Mariette Awad, Rabih Jabr</i>	
Symbol Generation and Feature Selection for Reinforcement Learning Agents Using Affordances and U-Trees .....	657
<i>Marcus Oladell, Manfred Huber</i>	
Color and Shape Feature-based Detection of Speed Sign in Real-time .....	663
<i>Seunggyu Kim, Seongdo Kim, Youngjung Uh, Hyeran Byun</i>	
 <b>MoBR03-Session: Business Applications and Discrete Event</b>	
Ontology-Based Marketplace For Supporting Negotiation in Different Scientific Applications .....	667
<i>Moath Jarrah, Bernard Zeigler</i>	
Human-Machine Interaction for Real-time Linear Optimization .....	673
<i>Simon Hamel, Jonathan Gaudreault, Claude-Guy Quimper, Mathieu Bouchard, Philippe Marier</i>	
Using Link Structure to Infer Opinions in Social Networks .....	681
<i>Juliano Rabelo, Ricardo Prudencio, Flavia Barros</i>	
Holonic Multi-Agent System: Simulation of Manufacturing Network Formation .....	686
<i>Guiovanni Jules, Mozafar Saadat, Nan Li</i>	
A Low Cost Scalable Predictive Server Architecture for Embedded Systems Applications .....	692
<i>Daniel Mezzalira, Luis Carlos Trevelin</i>	

## MoBR04-Session: Best Conference Paper Award Presentation Session

Map Merging of Multi-Robot SLAM using Reinforcement Learning .....	53
<i>Pierre Dinnissen, Sidney Givigi, Howard Schwartz</i>	
Three Design Principles Learned through Developing a Series of 3D Sketch Systems: "Memory Capacity", "Cognitive Mode", and "Life-size and Operability" .....	880
<i>Shun'ichi Tano</i>	
Soft Contact-lens Biosensor for Real-time Tear Sugar Monitoring at the Eye .....	2048
<i>Hiroyuki Kudo, Yoshitaka Hiranuma, MingXing Chu, Kumiko Miyajima, Takahiro Arakawa, Hideo Hiramatsu, Kohji Mitsubayashi</i>	
Combining a Multi-Objective Optimization Approach with Meta-Learning for SVM Parameter Selection .....	2909
<i>Pericles B. C. de Miranda, Ricardo B. C. Prudencio, Andre Carlos P. L. F. de Carvalho, Carlos Soares</i>	
C03 On the Properties of SIRMs Connected Fuzzy Inference Method with Consequent Fuzzy Sets .....	1408
<i>Hirosato Seki, Masaharu Mizumoto</i>	

## MoBR05-Special Session: Innovative Softcomputing Methodologies and Applications II

Optimal Protein Structure Alignment using Modified Extremal Optimization .....	697
<i>Akihiro Nakada, Keiichi Tamura, Hajime Kitakami</i>	
Clustering-based Burst-detection Algorithm for Web-image Document Stream on Social Media .....	703
<i>Shingo Tamura, Keiichi Tamura, Hajime Kitakami, Kaishi Hirahara</i>	
Quantum-Inspired Tabu Search Algorithm for Reversible Logic Circuit Synthesis .....	709
<i>Shu-Yu Kuo, Wei-Lin Chang, Yi-Jyuan Yang, Wen-Hsin Wang, Chia-Hui Chiu, Sheng-Fei Huang, Yao-Hsin Chou</i>	
Tour Route Planning Problem for Sightseeing with the Multiroute under Several Uncertain Conditions .....	715
<i>Takashi Hasuike, Hideki Katagiri, Hiroe Tsubaki, Hiroshi Tsuda</i>	
New Crossover Operator Based on Semantic Distance between Subtrees in Genetic Programming .....	721
<i>Akira Hara, Yoshimasa Ueno, Tetsuyuki Takahama</i>	
Interactive Multiobjective Random Fuzzy Programming: Necessity-Based Value at Risk Model .....	727
<i>Hideki Katagiri, Takeshi Uno, Kosuke Kato, Hiroshi Tsuda, Hiroe Tsubaki</i>	

## MoBR06-Session: Machine Vision

A Novel Method for Reconstructing Degraded Digits .....	733
<i>Alberto Lopes Filho, Carlos Mello</i>	
A Vision-based System for Early Fire Detection .....	739
<i>Pedro Santana, Pedro Gomes, Jose Barata</i>	
Multiple Object Tracking via a Two-way Confidence-based Correspondence Algorithm .....	745
<i>Hadi Firouzi, Homayoun Najjaran</i>	

Pedestrian Detection based on Appearance, Motion, and Shadow Information .....	750
<i>Junqiu Wang, Yasushi Yagi</i>	
A Colour Statistical Approach to Phantom Pruning in Multi-View Detection .....	756
<i>Jie Ren, Ming Xu, Jeremy S. Smith</i>	
Cast Shadow Removal in Motion Detection by Exploiting Multiview Geometry .....	762
<i>Ming Xu, Tianyuan Jia, Jie Ren, Jeremy Smith</i>	

## MoBR07-Session: Soft Computing II

Quantitative Analysis Based Tuning Law for Convergence Rate of Spiral Optimization .....	767
<i>Kenichi Tamura, Keiichiro Yasuda</i>	
A Set-Based Discrete PSO for Cloud Workflow Scheduling with User-Defined QoS Constraints .....	773
<i>Wei-neng Chen, Jun Zhang</i>	
Application of NSGA-II with Local Search to Multi-docks Cross-docking Sheduling Problem .....	779
<i>Yu Guo, Zhou-Rong Chen, Yong-Liu Ruan, Jun Zhang</i>	
Ant Colony Optimization for Enhancing Scheduling Reliability in Wireless Sensor Networks .....	785
<i>xiao-min Hu, Jun Zhang</i>	
Evolving Expert Agent Parameters for Capture the Flag Agent in Xpilot .....	791
<i>Gary Parker, Sarah Penrose</i>	
Supervised Learning and Anti-learning of Colorectal Cancer Classes and Survival Rates from Cellular Biology Parameters .....	797
<i>Chris Roadknight, Uwe Aickelin, Guoping Qiu</i>	

## MoBR08-Special Session: Collaborative Manufacturing and Supply Chains

Dynamic Programming for Services Scheduling with Start Time Constraints in Distributed Collaborative Manufacturing Systems .....	803
<i>Zhicheng Cai, Xiaoping Li, Long Chen</i>	
Heuristic Methods for Minimizing Resource Availability Costs in Multi-mode Project Scheduling .....	809
<i>Long Chen, Xiaoping Li, Zhicheng Cai</i>	
An Industrial Case Study of Feature-based In-Process Workpiece Modeling .....	814
<i>Wei Wang, Yingguang Li, Weiming Shen, Xiaoping Li, Wenping Mou</i>	
Situation-Based Process Guiding and Supervision Assistance System for Semi-Automated Manufacturing Processes .....	820
<i>Marcel Langer, Dirk Soffker</i>	
An Iterative Auction Model for Digital Signage Network Scheduling .....	826
<i>Payman Salimi, Chun Wang</i>	
Crowdsourcing for Music: Survey and Taxonomy .....	832
<i>Carlos Gomes, Daniel Schneider, Katia Moraes, Jano de Souza</i>	

## MoBR09-Session: Pattern Recognition

A Fast Eye Localization and Verification Method to Improve Face Matching in Surveillance Videos . . . .	840
<i>Lucas Oliveira, Dibio Borges, Flavio Vidal, Lin-Ching Chang</i>	
Recognizing Human Cognition through Nonlinear Dynamics and Syntactic Learning . . . . .	846
<i>Sumona Mukhopadhyay, Henry Leung</i>	
Gradient Feature Matching for Expression Invariant Face Recognition using Single Reference Image . . .	851
<i>Ann Theja Alex, Vijayan K. Asari, Alex Mathew</i>	
Color and Illumination Invariant Dice Recognition . . . . .	857
<i>Gee-Sern Hsu, Hsiao-Chia Peng, Shang-Min Yeh</i>	
Face Recognition with Enhanced Local Gabor Binary Pattern from Human Fixations . . . . .	863
<i>Eunsoo Choi, Seong-Whan Lee, Christian Wallraven</i>	

## MoBR10-Session: Human-Computer Interaction

Analysis of Human Reliability in Computer-Aided Design . . . . .	868
<i>Raymond Djaloeis, Sonke Duckwitz, Malte Sebastian Hinsch, Christopher M. Schlick, Jorg Feldhusen</i>	
Experimental Evaluation of a Co-planar Airborne Separation Display . . . . .	874
<i>Joost Ellerbroek, Koen Brantegem, Marinus M. van Paassen, Max Mulder, Nico de Gelder</i>	
Three Design Principles Learned through Developing a Series of 3D Sketch Systems: "Memory Capacity", "Cognitive Mode", and "Life-size and Operability" . . . . .	880
<i>Shun'ichi Tano</i>	
Process-Oriented Evaluation of User Interactions in Integrated System Analysis Tools . . . . .	888
<i>Chaiwoo Lee, Paul Grogan, Olivier de Weck</i>	
Rapid Screening of Keyboard Layouts . . . . .	894
<i>Joonseok Lee, Hangggun Cho, Robert Ian (Bob) McKay</i>	
Three-dimensional Reconstruction of Artifacts Based on a Hybrid Genetic Algorithm . . . . .	900
<i>Koji Kashihara</i>	

## MoBR11-Special Session: Collaborative Computing

A Usability and Spatial Awareness Study of Near-Eye Displays . . . . .	906
<i>Weidong Huang, Leila Alem</i>	
Ecosystem Oriented Energy Management: An Implementation . . . . .	912
<i>Anna Florea, Corina Postelnicu, Bin Zhang, Jose Luis Martinez Lastra</i>	
Motion Recognition with Smart Phone Embedded 3-Axis Accelerometer Sensor . . . . .	919
<i>Hyunju Cho, Sangchul Kim, Jinsuk Baek, Paul Fisher</i>	
Combining Learning with Patterns and Geo-collaboration to Support Situated Learning . . . . .	925
<i>Gustavo Zurita, Nelson Baloian</i>	

Qualitocracy: A Data Quality Collaborative Framework Applied to Citizen Science .....	931
<i>Marcio Antelio Silva, Gilda Esteves, Daniel Schneider, Jano Souza</i>	
An Efficient New Multi-Language Clone Detection Approach from Large Source Code .....	937
<i>Saif Ur Rehman, Kamran Khan, Simon Fong, Robert P. Biuk-Aghai</i>	
 <b>MoBR12-Session: Poster Session II</b>	
Dynamic Access Network Reorganization for the Depopulation Age .....	941
<i>Yu Nakayama</i>	
System Complexity as its Ability to Transmit Information .....	947
<i>Wael Hafez</i>	
An Approach to Modelling City-scale Artificial Society Based-on Organization Metaphor .....	953
<i>Mingsheng Tang, Xinjun Mao, Huiping Zhou, Xueyan Tan</i>	
Trajectory Formation Based on a Human Arm Model with Redundancy .....	959
<i>Tadashi Kashima, Keisuke Yanagihara, Masao Iwaseya</i>	
A Total Error Rate Multi-class Classification .....	964
<i>Xizhao Wang, Meng Zhang, Shuxia Lu, Xu Zhou</i>	
Instance Selection based on Sample Entropy for Efficient Data Classification with ELM .....	970
<i>Xizhao Wang, Qing Miao, Mengyao Zhai, Junhai Zhai</i>	
Robust Feature Extraction for Novelty Detection based on Regularized Correntropy Criterion .....	975
<i>Huan-Ru Ren, Hong-Jie Xing</i>	
Discriminative Spatial Pattern Vectors Selection for Motor Imagery Classification .....	981
<i>Kyeong-Yeon Lee, Sun Kim</i>	
Ontological Framework of Context-Aware and Reasoning Middleware for Smart Homes with Health and Social Services .....	985
<i>Yulia Evchina, Aleksandra Dvoryanchikova, Jose Luis Martinez Lastra</i>	
Study of Diabetes Type 2 Risk Factors Using Neural Network For Thai People and Tuning Neural Network Parameters .....	991
<i>Wuttichai Luangruangrong, Annupan Rodtook, Sanon Chimmanee</i>	
Applicability of Existing Anonymization Methods to Large Location History Data in Urban Travel ....	997
<i>Rie Shigetomi Yamaguchi, Keiichi Hirota, Koki Hamada, Katsumi Takahashi, Kazutaka Matsuzaki, Jun Sakuma, Yasuyuki Shirai</i>	
Genetic Algorithm for Clustering Accelerated by the CUDA Platform .....	1005
<i>Pavel Kromer, Jan Platos, Vaclav Snasel</i>	
Artificially Evolved Soft Computing Models for Photovoltaic Power Plant Output Estimation .....	1011
<i>Lukas Prokop, Stanislav Misak, Tomas Novosad, Pavel Kromer, Jan Platos, Vaclav Snasel</i>	
Speech and Phoneme Segmentation Under Noisy Enviroment Through Spectrogram Image Analysis ...	1017
<i>Diogo Costa, Gilliard Lopes, Carlos Mello, Hesdras Viana</i>	
Concurrency Control Program Generation by Decreasing Nodes of Program Trees in Genetic Programming .....	1023
<i>Shinji Tamura, Teruhisa Hochin, Hiroki Nomiya</i>	

A frame work for Search Forms Classification .....	1029
<i>Myungsook Klassen</i>	
Head Pose Estimation based on Active Shape Model and Relevant Vector Machine .....	1035
<i>Min Jiang, Lin Deng, Lei Zhang, J. Tang, Chan Fan</i>	
Office Layout Support System for Polygonal Space using Interactive Genetic Algorithm – Generation of Layout Plans for Workspace – .....	1039
<i>Yusuke Araki, Yuko Osana</i>	
Similarity-based Image Retrieval considering Artifacts from a Part of Images by Self-Organizing Map with Refractoriness .....	1045
<i>Yoji Kuramochi, Ryuhei Fukazawa, Yuko Osana</i>	
Resting-state fMRI Analysis of Alzheimer’s Disease Progress Using Sparse Dictionary Learning .....	1051
<i>Jeonghyeon Lee, Jong Chul Ye</i>	
Application of the Variance-covariance Matrix in Natural Exponential to Identify Noise in Signal .....	1054
<i>Taher Ben Arab, Mourad Zribi, Afif Masmoudi</i>	
An Emotional Model Embedded Reinforcement Learning System .....	1058
<i>Masanao Obayashi, Takahiro Takuno, Takashi Kuremoto, Kunikazu Kobayashi</i>	
Credit Risk Evaluation with Extreme Learning Machine .....	1064
<i>Hongming Zhou, Yuan Lan, Yeng Chai Soh, Guang-Bin Huang, Rui Zhang, Rui Zhang</i>	
First Order Sliding Fuzzy Interval Type-2 Control Applied for the Steering Vehicle Control .....	1070
<i>Lghani Menhour, Malik Manceur, Kamel Bouibed</i>	
Fuzzy Rule-based Model to Estimate Surface Roughness and Wear in Hard Coatings .....	1076
<i>Abdul Syukor Mohamad Jaya, Siti Zaiton Mohd Hashim, Habibollah Haron, Muhd Razali Muhammad, Md. Nizam Abd. Rahman, Razali Ngah</i>	
Security Issues in Cloud Computing .....	1082
<i>Huaglory Tianfield</i>	
Adoptive Population Differential Evolution with Local Search for Solving Large Scale Global Optimization .....	1090
<i>Sheng-Ta Hsieh, Shih-Yuan Chiu, Shi-Jim Yen</i>	
Pseudo-real fMRI data Deneration and Its Utility Toward Quantitative Evaluation of Analytical Methods .....	1095
<i>Dong-Youl Kim, Jong-Hwan Lee</i>	
Are There Brain Regions related to Speech Perception? Evidence from a functional MRI study .....	1100
<i>HoJung Kang, Jong-Hwan Lee</i>	
Experimental Evaluation of Software Aging Effects in the Eucalyptus Elastic Block Storage .....	1103
<i>Rubens Matos, Jean Araujo, Vandi Alves, Paulo Maciel</i>	
Selective Noise Removal Method in Low Frequency Region for Fiber Bundle-Based Endoscopy .....	1109
<i>Cheon Yang Lee, Jae-Ho Han</i>	
Statistical Text Analysis and Sentiment Classification in Social Media .....	1112
<i>Sang-Hyun Cho, Hang-Bong Kang</i>	
Twitter Part-Of-Speech Tagging Using Pre-classification Hidden Markov Model .....	1118
<i>Shichang Sun, Hongbo Liu, Ajith Abraham, Hongfei Lin</i>	

Elitist Teaching Learning Opposition based Algorithm for Global Optimization .....	1124
<i>Rajasekhar Anguluri, Rani Ropal, Ramya Kolli, Ajith Abraham</i>	
Matching Human Understanding: Syntax and Semantics Revisited .....	1130
<i>Julia M. Taylor, Victor Raskin, Lauren M. Stuart</i>	
An Extension of Unsupervised Design Method for Weighted Median Filters Using GA .....	1136
<i>Yoshiko Hanada, Mitsuji Muneyasu, Akira Asano</i>	
Robust Localisation of Pedestrians with Cast Shadows Using Homology in A Monocular View .....	1142
<i>Ming Xu, Tianyuan Jia, Lei Lu</i>	
A PCA-DWT-SVD based Color Image Watermarking .....	1147
<i>Muhammad Imran, Abdul Ghaffoor</i>	
Knowledge Mediator Decomposing Expert Agent Knowledge To Develop Novice Agent Knowledge Com- prehension .....	1153
<i>Nur Maya, Kwon Gyu Hyun</i>	
Synthesis Method of Gene Regulatory Networks Having Desired Periodic Expression Pattern Sequences	1159
<i>Yoshihiro Mori, Yasuaki Kuroe</i>	
Identification and Validation of Lateral Driver Models on Experimentally Induced Driving Behavior ...	1165
<i>Peter Hermannstaedter, Bin Yang</i>	
Service-oriented Infrastructure at Device Level to implement Agile Factories .....	1171
<i>Goncalo Candido, Jose Barata, Armando Colombo</i>	
A Reachability-based Theoretical Framework for Modeling and Querying Complex Probabilistic Graph Data .....	1177
<i>Alfredo Cuzzocrea, Paolo Serafino</i>	
A New Image Encryption Algorithm Using Truncated P-Fibonacci Bit-planes .....	1185
<i>Weijia Cao, Yicong Zhou, C. L. Philip Chen</i>	
 <b>TuAR01-Special Session: Petri Net and Their Applications in Industry</b>	
Using Theory of Regions with Selective Siphon Control for Deadlock Prevention Policy in Petri Nets ..	1189
<i>Yen-Liang Pan, Yi-Sheng Huang, Mu-Der Jeng, Sheng-Luen Chung</i>	
Distributed Fault Detection by Labeled Petri Nets .....	1195
<i>Maria Pia Fanti, Agostino Marcello Mangini, Walter Ukovich</i>	
Activity-Oriented Petri Net for Scheduling of Resources .....	1201
<i>Reggie Davidrajuh</i>	
A Hierarchical Pre-runtime Scheduling for Hard Real-Time Systems Considering Fault-Tolerance .....	1207
<i>Eduardo Tavares, Paulo Maciel, Erica Souva, Bruno Nogueira, Leonardo Amorim, Victor Lira</i>	
A Novel Scheduling Approach to Dual-Arm Cluster Tools with Wafer Revisiting .....	1213
<i>Naiqi Wu, Mengchu Zhou</i>	
Possibilistic WorkFlow Nets to Deal with Non-conformance in Process Execution .....	1219
<i>Leiliane Rezende, Stephane Julia, Janette Cardoso</i>	

## TuAR02-Session: Decision Support Systems I

Detection of Abnormal Energy Patterns Pointing to Gradual Conveyor Misalignment in a Factory Automation Testbed .....	1225
<i>Navid Khajezadeh, Corina Postelnicu, Jose Luis Martinez Lastra</i>	
The Realization of a SoPC-Based Electric Unicycle .....	1230
<i>Yuan-Pao Hsu, Sheng-Han Huang</i>	
An Identification Method of Risks in Project Plan Document by Automatic Acquisition of Risk Expression .....	1235
<i>Yuuki Imanara, Daisuke Nakajima, Masaki Samejima, Masanori Akiyoshi, Hiroshi Morihisa</i>	
An Identification Method of Lacking Information by Clue Phrases in Plan Document for Project Risk Management .....	1240
<i>Ryosuke Miyaji, Masaki Samejima, Masanori Akiyoshi, Hiroshi Morihisa</i>	
A Simulated Annealing Algorithm for Energy Efficient Virtual Machine Placement .....	1245
<i>Yongqiang Wu, Maolin Tang, Warren Fraser</i>	
Evaluating System of Systems Resilience using Interdependency Analysis .....	1251
<i>Seung Yeob Han, Karen Marais, Daniel DeLaurentis</i>	

## TuAR03-Session: Communication Systems

Performance Evaluation of Transmission Power Optimization Formulations in Wireless Sensor Networks using Pareto Optimality .....	1257
<i>Chi-Tsun Cheng, Henry Leung</i>	
Multi-level operational C2 architecture modeling via hierarchically structured semi-Markov decision processes .....	1262
<i>Chulwoo Park, Krishna Pattipati, David Kleinman</i>	
Capitation Tax Based Control of Multipopulation Replicator Dynamics under Incomplete Information .....	1268
<i>Takuya Morimoto, Takafumi Kanazawa, Toshimitsu Ushio</i>	
Infrastructure Modeling of Converged Networks for Business-oriented Metrics Evaluation .....	1274
<i>Almir Pereira Guimaraes, Paulo Romero Martins Maciel</i>	
Some Observations from the Analysis of an Online Discussion Board .....	1280
<i>Sergio Ochoa, Jose Pino, Nelson Baloian, Pedro Antunes, Valeria Herskovic</i>	

## TuAR04-Special Session: Biometric Systems

An Evolutionary Wrapper for Feature Selection in Face Recognition Applications .....	1286
<i>Leandro Vignolo, Diego Milone, Jacob Scharcanski, Carlos Behaine</i>	
Secure and Privacy-preserving Biometrics based Active Authentication .....	1291
<i>Yan Sui, Xukai Zou, Eliza Du, Feng Li</i>	
Quality Fusion Based Multimodal Eye Recognition .....	1297
<i>Zhi Zhou, Eliza Du, Craig Belcher, N. Luke Thomas, Edward Delp</i>	



Attacks Using Random Forgery Against DTW-Based Online Signature Verification Algorithm .....	1303
<i>Daigo Muramatsu, Yasuhi Yagi</i>	
Gait Recognition using Images of Oriented Smooth Pseudo Motion .....	1309
<i>Yasushi Makihara, Betria Silvana Rossa, Yasushi Yagi</i>	
Dorsal Finger Texture Recognition: Towards Fixed-Length SURF .....	1315
<i>Daniel Hartung, Jesper Kuckelhahn</i>	

### **TuAR05-Special Session:Soft Computing I**

An Empirical Study on Influence of Approximation Approaches on Enhancing Fireworks Algorithm ...	1322
<i>Yan Pei, Shaoqiu Zheng, Ying Tan, Hideyuki Takagi</i>	
Genetic Programming and Adaboosting based Churn Prediction for Telecom .....	1328
<i>Adnan Idris, Asifullah Khan, Yeon Soo Lee</i>	
Chaotic Particle Swarm Optimization with an Intensive Search Around the Personal and Global Bests	1333
<i>Keiji Tatsumi, Takeru Ibuki, Tetsuzo Tanino</i>	
Hybrid PSO-Black Stcok Foraging for Functional Neural Fuzzy Network Learning Enhancement .....	1339
<i>Zakaria Hamed, Siti Zaiton Mohd Hashim</i>	
Estimating Shape From Focus by Gaussian Process Regression .....	1345
<i>Muhammad Tariq Mahmood, Young-Kyu Choi, Seongo Shim</i>	

### **TuAR06-Session: Machine Learning I**

Ensemble of Feature Selectors for Software Fault Localization .....	1351
<i>Shounak Roychowdhury</i>	
Online Learning of Sparse Pseudo-Input Gaussian Process .....	1357
<i>Heung-Il Suk, Yuzhuo Wang, Seong-Whan Lee</i>	
Exponential Smoothing Methods for Forecasting Bar Diagram-valued Time Series .....	1361
<i>Carlos Araujo Junior, Francisco de Carvalho, Andre Maia</i>	
An Study on the Effect of Learning Parameters on Inducing Compact SVM .....	1367
<i>Yuya Kaneda, Qiangfu Zhao, Kyohei Watarai</i>	
New Trends for Decision Support Systems .....	1373
<i>Hao-Tian Zhang, Qian Yang, Chun Sing Lai, Loi Lei Lai</i>	

### **TuAR07-Session: Soft Computing III**

Partitioning Fuzzy Clustering Algorithms for Interval-valued Data based on Hausdorff Distances .....	1379
<i>Francisco de Carvalho, Julio Pimentel</i>	
Partitioning Fuzzy Clustering Algorithms for Mixed Feature-type Symbolic Data .....	1385
<i>Francisco de Carvalho, Lucas Cambuim</i>	

A Performance Comparison of using PCA-based Feature Reduction and Ant Colony Optimization with Soft Clustering Approaches .....	1391
<i>Phichete Julrode, Siriporn Supratid, Ureerat Suksawatchon</i>	
A Penalty-based Grouping Genetic Algorithm for Clustering Multiple SaaS Components in Cloud Computing .....	1396
<i>Zeratul Mohd Yusoh, Maolin Tang</i>	
A MultiObjective Particles Swarm Optimization Algorithm for Solving the Routing Pico-Satellites Problem .....	1402
<i>Raja Fdhila, Tarek M. Hamdani, Adel M. Alimi</i>	
On the Properties of SIRM Connected Fuzzy Inference Method with Consequent Fuzzy Sets .....	1408
<i>Hirosato Seki, Masaharu Mizumoto</i>	

### **TuAR08-Special Session: Medical and Health Care Technology IV**

Nonrigid Image Registration Method for Thoracic CT Images Using Vessel Structure Information .....	1413
<i>Shinya Maeda, Hyoungseop Kim, Joo Kooi Tan, Seiji Ishikawa, Seiichi Murakami, Takatoshi Aoki</i>	
Surface Orientation Driven 3D Rigid Registration Method .....	1418
<i>Guangxu Li, Hyoungseop Kim, Joo Kooi Tan, Seiji Ishikawa</i>	
Fuzzy Object Model Based Fuzzy Connectedness Image Segmentation for Newborn Brain MR Images ..	1422
<i>Syoji Kobashi, Jayaram Udupa</i>	
An Evaluation of Image Enhancement Techniques for Capillary Imaging .....	1428
<i>Niraj Doshi, Gerald Schaefer, Arcangelo Merla</i>	
A Visual Inspection System for Medical Capsules .....	1433
<i>Takaki Murai, Masakazu Morimoto, Kensaku Fujii</i>	
Multi-Directional Alignment Method of Three-Dimensional Optical Coherence Tomographic Images ...	1438
<i>Naoki Takeno, Kosuke Kagotani, Shinji Tsuruoka, Hiroharu Kawanaka, Haruhiko Takase, Hisashi Matsubara, Fumio Okuyama, Hisanori Yagami</i>	

### **TuAR09-Special Session: Collaborative Technologies and Applications**

User-centered Design and Evaluation of an Integrated AR-VR System for Tele-Maintenance .....	1443
<i>Michael Kleiber, Thomas Alexander, Carsten Winkelholz, Christopher M. Schlick</i>	
Modeling of Complex Processes in Nursing and Caregiving Services .....	1449
<i>Kunihiko Hiraishi, Sunseong Choe, Kentaro Torii, Naoshi Uchihira, Toshiaki Tanaka</i>	
Performance Evaluation and Analysis of SEU Cloud Computing Platform Using General Benchmarks and Real World AMS Application .....	1455
<i>Fang Dong, Junzhou Luo, Jiahui Jin, Yanhao Wang, Yanmin Zhu</i>	
NL-Based Communication With Firefighting Robots .....	1461
<i>Ji Hyeon Hong, Byung-Cheol Min, Julia M. Taylor, Victor Raskin, Eric T. Matson</i>	

Group Communication Supporting System for People Dining Together: Group FDT Design based on the Investigations of Isolation Behavior .....	1467
<i>Yuichiro Otsuka, Tomoo Inoue</i>	

Reducing Energy Consumption in Human-centric Wireless Sensor Networks .....	1473
<i>Roc Messeger, Carlos Molina, Sergio Ochoa, Rodrigo Santos</i>	

### **TuAR10-Session: Cognitive Engineering**

PUPDroid - Personalized User Privacy Mechanism for Android. ....	1479
<i>Leonardo Leite de Melo, Sergio Donizetti Zorzo</i>	

Design and Control of a Robot for the Assessment of Psychological Factors in Prosthetic Development	1485
<i>Philipp Beckerle, Oliver Christ, Janis Wojtuscz, Jochen Schuy, Kerstin Wolff, Stephan Rinderknecht, Joachim Vogt, Oskar von Stryk</i>	

Improvement and Evaluation of Intellectual Productivity Model based on Work State Transition .....	1491
<i>Kazune Miyagi, Shou Kawano, Hirotake Ishii, Hiroshi Shimoda</i>	

Time Series Modeling of Visually Induced Postural Sway .....	1497
<i>Takashi Imamura, Hikarru Harada, Zhong Zhang, Tetsuo Miyake</i>	

Using Manual Tracking Performance to Tune a Specified-Negative-Amplitude Input Shaper .....	1503
<i>James Potter, William Singhose</i>	

An Attentive Multi-sensor Based System for Mobile Robotics .....	1509
<i>Esther Colombini, Carlos Henrique Costa Ribeiro</i>	

### **TuAR11-Special Session: Human Centered Transportation Systems**

Estimation for Grasp Behavior of Vehicle Driver by using Steering Wheel Sensor System .....	1515
<i>Takashi Imamura, Yuto Takeuchi, Zhong Zhang, Tetsuo Miyake</i>	

A Study on Navigator's Performance in Ship Bridge Simulator using Heart Rate Variability .....	1520
<i>Tunglam Ngodang, Koji Murai, Yuji Hayashi, Nobuo Mitomo, Kenji Yoshimura, Kenjiro Hikida</i>	

A Study on Situation Awareness of Marine Pilot Trainees in Crowded Sea Rout .....	1525
<i>Tadatsugi Okazaki, Masato Ohya</i>	

Evaluation of Ship Navigator's Mental Workload for Ship Handling Based on Salivary NO3- .....	1531
<i>Kenichi Kitamura, Koji Murai, Keiichi Fukushi, Yuji Hayashi, Shin-ichi Wakida, Takashi Miyado, Nobuo Mitomo, Kenji Yoshimura, Kenjiro Hikida</i>	

Toward a Human-centered Intelligent Supervision and Assistance for Complex Technical Systems .....	1536
<i>Xingguang Fu, Dirk Soffker</i>	

Low Power Wireless Sensor Node for Human Centered Transportation System .....	1542
<i>Chun Kit Alex Chan, Takayuki Fujita, Kazusuke Maenaka</i>	

### TuAR12-Session: Poster Session III

Adaptive Neural Compensation Scheme for Robust Tracking of MEMS Gyroscope .....	1546
<i>Juntao Fei, Yuzheng Yang</i>	
Evaluation of a Newly Developed Model-Driven PLC Programming Approach for Machine and Plant Automation .....	1552
<i>Martin Obermeier, Daniel Schutz, Birgit Vogel-Heuser</i>	
Parallel Solver for Vehicle Routing and Pickup and Delivery Problems with Time Windows Based on Agent Negotiation .....	1558
<i>Petr Kalina, Jiri Vokrinek</i>	
Sensor Pillow and Bed Sheet System: Unconstrained Monitoring of Respiration Rate and Posture Movements During Sleep .....	1564
<i>Shongpun Lokavee, Natthapol Watthanawisuth, Adisorn Tuantranont, Theeraporn Puntheeranurak, Teerakiat Kerdcharoen</i>	
Integrated Fuzzy GNP Rule Mining with Distance-based Classification for Intrusion Detection System .....	1569
<i>Nannan Lu, Shingo Mabu, Tuo Wang, Kotaro Hirasawa</i>	
Design by Applying Fuzzy Control Technology to Achieve Biped Robots with Fast and Stable Footstep .....	1575
<i>Hai-Wu Lee, Chih-Lyang Hwang</i>	
Safety Monitoring System for a Manufacturing Workstation using 6LoWPAN Technologies .....	1581
<i>Tomas Sedlacek, Jani Jokinen, Corina Postelnicu, Jose Luis Martinez Lastra</i>	
On the Structural Identifiability of Joint Parameters from Motion Capture Data .....	1586
<i>Quang-Cuong Pham, Ko Ayusawa, Kanade Kubota, Yoshihiko Nakamura</i>	
Dependability Analysis and Optimal Maintenance Problem for Open Source Cloud Computing .....	1592
<i>Yoshinobu Tamura, Shigeru Yamada</i>	
Controlling Operation and Timings in Distributed Sensor Networks with Wireless Components .....	1598
<i>Pedro Furtado, Jose Cecilio</i>	
Data-driven Pattern Moving and Generalized Predictive Control .....	1604
<i>Zhengguang Xu, Jinxia Wu</i>	
Target Finding and Obstacle Avoidance Algorithm for Microrobot Swarms .....	1610
<i>Anan Banharnsakun, Tiranee Achalakul, Romesh Batra</i>	
POSMOS: POSCO Middleware for Open Systems in the Iron-and-steel-making Level 2 System .....	1616
<i>Dohun Kim, Ja Young Choi, Young Bok Park</i>	
Development of an Electronic Nose for Detection and Discrimination of Exhaled Breath of Hepatocellular Carcinoma Patients .....	1622
<i>Thara Seesaard, Chayanin Khunarak, Taya Kitiyakara, Teerakiat Kerdcharoen</i>	
Non-Fragile Control for Uncertain Takagi-Sugeno Fuzzy Bilinear Systems with Delays .....	1627
<i>Ryutaro Takada, Jun Yoneyama, Yuzu Uchida</i>	
Condition Monitoring for Predictive Maintenance in the Pulp & Paper Industry: Two Implementations .....	1633
<i>Jani Jokinen, Corina Postelnicu, Bin Zhang, Roberto Camp, Mikko Suhonen, Otto Karhumaki, Jose Luis Martinez Lastra</i>	

Parallel and Distributed Kmeans to Identify the Translation Initiation Site of Proteins .....	1639
<i>Laerte Rodrigues, Luis Zarate, Cristiane Nobre, Henrique Freitas</i>	
Regulation of DC-Bus Voltage in Photovoltaic Power Systems .....	1646
<i>Gwo-Ruey Yu</i>	
A Robust On-line Learning Algorithm for Type-2 Fuzzy Neural Networks and its Experimental Evaluation on an Autonomous Tractor .....	1652
<i>Erdal Kayacan, Erkan Kayacan, Herman Ramon, Wouter Saeys</i>	
Invariant Representations to Reduce the Variability in Recognition of Rigid Body Motion Trajectories .....	1658
<i>Tjorven Delabie, Ozkan Cigdem, Jochem F.M. De Schutter, Roel Matthysen, Tinne De Laet, Joris De Schutter</i>	
An Availability Model for Eucalyptus Platform: An Analysis of Warm-Standy Replication Mechanism .....	1664
<i>Jamilson Dantas, Rubens Matos, Jean Araujo, Paulo Maciel</i>	
IT Risk Management Framework for Business Continuity by Change Analysis of Information System ..	1670
<i>Masaki Samejima, Hiroshi Yajima</i>	
The Fuzzy C-regression Model for Lithium Battery .....	1675
<i>Chung-Chun Kung, Shuo-Chieh Chang, Ti-Hung Chen</i>	
A Generalised Data Analysis Approach for Baggage Handling Systems Simulation .....	1681
<i>Vu Le, James Zhang, Michael Johnstone, Saeid Nahavandi, Douglas Creighton</i>	
An Image Vehicle Classification Method Based on Edge and PCA Applied to Blocks .....	1688
<i>Fabrizia Matos, Renata Souza</i>	
An Intelligent System for Driving Trains Using Case-Based Reasoning .....	1694
<i>Andre Borges, Osmar Dordal, Denise Sato, Braulio Avila, Fabricio Enembreck, Edson Scalabrin</i>	
Region of Attraction Estimation of Biological Continuous Boolean Models .....	1700
<i>Megan Matthews, Cranos Williams</i>	
Features for Link Prediction in Social Networks: A Comprehensive Study .....	1706
<i>Feng Liu, Bingquan Liu, Xiaolong Wang, Ming Liu, Baoxun Wang</i>	
Ordinal Optimization for Optimal Capacitor Placement and Network Reconfiguration in Radial Distribution Networks .....	1712
<i>Randa El Ramly, Mariette Awad, Rabih Jabr</i>	
A Web Application for an Obesity Prevention System Based on Individual Lifestyle Analysis .....	1718
<i>Yoshitaka Kato, Suzuki Takuo, Kobayashi Keisuke, Yasushi Nakauchi</i>	
Geometric Constraints for Robot Navigation using Omnidirectional Camera .....	1724
<i>Min-Liang Wang, Hurng-Sheng Wu, Chien-Hsing He, Wen-Tsai Huang, Huei-Yung Lin</i>	
Raman Spectral Analysis Based on Time-Frequency Analysis .....	1730
<i>Jen-Hsiang Chou, Chih-Ming Hsu, Shun-Yuan Wang, Chii-Ruey Lin, Ching-Yin Lee</i>	
A Symbolic Model Checking Approach to Verifying Transact-SQL .....	1735
<i>Rodrigo Diana, Mark Song, Humberto Torres, Zarate Luis</i>	

Optimization/simulation-based Framework for the Evaluation of Supply Chain Management Policies in the Forest Product Industry .....	1742
<i>Wassim Jerbi, Jonathan Gaudreault, Sophie D'Amours, Mustapha Nourelfath, Sebastien Lemieux, Philippe Marier, Mathieu Bouchard</i>	
Capacity Planning of EFT Service Hosted on Elastic IaaS .....	1749
<i>Erica Sousa, Paulo Maciel, Debora Souza, Erico Mdeiros, Fernando Lins, Eduardo Tavares</i>	
Detection of Emergent Behavior for Internet Filtering Systems .....	1755
<i>Mohammad Moshirpour, Payman Mohassel, Armin Eberlein, Behrouz Far</i>	
Implementation of Hierarchical and Distributed Multitasking Control for Industrial Multiple Robotic Systems .....	1761
<i>Gen'ichi Yasuda</i>	
JMonitor: A monitoring Tool for Distributed Systems .....	1767
<i>Mauricio Penteado, Luis Carlos Trevelin</i>	
The Use of Support Vector Machine and Genetic Algorithms to Predict Protein Function .....	1773
<i>Walkiria Resende, Renato Nascimento, Carolina Xavier, Iara Lopes, Cristiane Nobre</i>	
A Petri Net-based Modeling and Scheduling with a Branch and Bound Algorithm .....	1779
<i>Hyun-Jung Kim, Jun-Ho Lee, Tae-Eog Lee</i>	
Choice Oscillations Caused by Boredom Effect in Human Learning Model .....	1785
<i>Arkady Zgonnikov, Ihor Lubashevsky</i>	
Camera Motion Estimation for 3-D Structure Reconstruction of Moving Objects .....	1788
<i>Dongkyoung Chwa</i>	
Mapping the Emerging field of Cloud Computing: Insights from a Visualization Analysis .....	1794
<i>Jun Wu, Qing Chen</i>	
In-Vivo Fault Prediction for RF Generators using Variable Elimination and State-of-the-art Classifiers .....	1800
<i>Girish Chandrashekar, Ferat Sahin</i>	
 <b>TuBR01-Special Session: Intelligent Media and New-Generation Software</b>	
A Robust Energy Artificial Neuron Based Incremental Self-Organizing Neural Network with a Dynamic Structure .....	1806
<i>Hao Liu, Haruhiko Sato, Satoshi Oyama, Masahito Kurihara</i>	
Serious Games for Learning Programming Languages .....	1812
<i>Tamotsu Mitamura, Yasuhiro Suzuki, Takahumi Oohori</i>	
Agent-Based Social Simulation Model that Accommodates Diversity of Human Values .....	1818
<i>Hideyuki Kannabe, Masato Noto, Tetsuya Morizumi, Hirotsugu Kinoshita</i>	
Parallelization of Termination Checker for Term Rewriting System .....	1824
<i>Rui Ding, Haruhiko Sato, Masahito Kurihara</i>	
Development of a Network Application-based Notetaking Support System .....	1830
<i>Masanobu Numazawa, Ryohei Sasaki, Takao Akimoto, Masato Noto</i>	

## TuBR02-Session:Decision Support Systems II

A Health Workforce Classification Framework for Decision Support in Employment Relations .....	1836
<i>Laura Aileone, Dennis Viehland</i>	
Addressing Health Information Privacy with a novel Cloud-Based PHR System Architecture .....	1841
<i>Pieter Van Gorp, Marco Comuzzi, Andre Fialho, Uzay Kaymak</i>	
Supplier Selection using Modified Fuzzy AHP-based Approach in Manufacturing Networks .....	1847
<i>Nan Li, Mozafar Saadat, Guiovanni Jules</i>	
Dashboard by-Example: A Hypergraph-based Approach to On-Demand Data Warehousing Systems ...	1853
<i>Duong Thi Anh Hoang, Thanh Binh Nguyen, A Min Tjoa</i>	
On Process Mining in Health Care .....	1859
<i>Uzay Kaymak, Ronny Mans, Tim van de Steeg, Meghan Dierks</i>	

## TuBR03-Session:Complex Systems

The Impact of Component Interconnections On Software Quality: A Network Analysis Approach .....	1865
<i>Li Jiang, Kathleen Carley, Michael Bigrigg, Armin Eberlein, Matthias Galster</i>	
An Anomaly Detection Method for Individual Service on Web-based System by Selection of Dummy Variables in Multiple Regression .....	1873
<i>Yuki Tsuda, C145 Ngoc Tan Nguyen, Masaki Samejima, Masanori Akiyoshi, Norihisa Komoda, Matsuki Yoshino</i>	
Quasi-Sliding Mode Control for a Class of Multivariable Discrete Time Bilinear Systems .....	1878
<i>Chung-Chun Kung, Ti-Hung Chen, Wen-Cheng Chen, Jui-Yiao Su</i>	
Prediction of Social Tag Frequency's Power Law Distribution with RGF Model .....	1884
<i>Zhenyu Wu, Yuying Wu</i>	
Multicriteria Information Fusion using a Fuzzy Evidential Rule-based Framework .....	1890
<i>Farzad Aminravan, Rehan Sadiq, Mina Hoorfar, Manuel Rodriguez, Homayoun Najjarian</i>	

## TuBR04-Session:Multi-Agent Systems

A Bidding Strategy using Genetic Network Programming with Adjusting Parameters for Large-scale Continuous Double Auction .....	1896
<i>Chuan Yue, Shingo Mabu, Kotaro Hirasawa</i>	
Acquiring a Broad Range of Empirical Knowledge in Real Time by Temporal Difference Learning .....	1903
<i>Joseph Modayil, Adam White, Patrick Pilarski, Richard Sutton</i>	
Office Layout Plan Evaluation System using Evacuation Simulation Considering Other Agents' Action	1911
<i>Yuya Sato, Yuko Osana</i>	
Multi-Objective Reinforcement Learning Method for Acquiring All Pareto Optimal Policies Simultaneously .....	1917
<i>Yusuke Mukai, Yasuaki Kuroe, Hitoshi Ima</i>	

Detecting Emergent Behavior in Autonomous Distributed Systems with Many Components of the Same Type .....	1924
<i>Fatemeh Hendijani Fard, Behrouz H. Far</i>	

Inverse Reinforcement Learning for Decentralized Non-Cooperative Multiagent Systems .....	1930
<i>Tummalapalli Reddy, Vamsikrishna Gopikrishna, Gergely Zaruba, Manfred Huber</i>	

### **TuBR05-Special Session:Soft Computing II**

A PSO-Based Document Classification Algorithm accelerated by the CUDA Platform .....	1936
<i>Jan Platos, Vaclav Snasel, Tomas Jezowicz, Pavel Kromer, Ajith Abraham</i>	

Soft Identification of Experts in DBLP using FCA and Fuzzy Rules .....	1942
<i>Milos Kudelka, Martin Radvansky, Zdenek Horak, Pavel Kromer, Vaclav Snasel</i>	

How to Divide Students into Groups so as to Optimize Learning: Towards a Solution to a Pedagogy-Related Optimization Problem .....	1948
<i>Olga Kosheleva, Vladik Kreinovich</i>	

Application of Communication Ant Colony Optimization for Lymph Node Classification .....	1954
<i>Chuan-Yu Chang, Shao-Jer Chen</i>	

Fuzzy Association Rules Mining Algorithm Based on Equivalence Redundancy of Items .....	1960
<i>Toshihiko Watanabe, Ryosuke Fujioka</i>	

### **TuBR06-Session:Machine Learning II**

Contradiction Resolution and Its Application to Self-Organizing Maps .....	1966
<i>Ryotaro Kamimura</i>	

Dynamic Learning for Visual Representation of Asymmetric Proximity .....	1972
<i>Heeyoul Choi</i>	

An Adaptive Isodata Clustering Algorithm with Partial Supervision .....	1978
<i>Valmir Macario, Francisco de Assis Tenorio De Carvalho</i>	

Towards Noun-Driven Parsing .....	1984
<i>Lauren Stuart, Julia M. Taylor, Victor Raskin</i>	

A Note on ANOVA in an Experimental Design Model Based on an Orthonormal System .....	1990
<i>Yoshifumi Ukita, Toshiyasu Matsushima, Shigeichi Hirasawa</i>	

A Model of a Middle Level of Cognition based on The Interaction Between Thalamus, Amygdala, and The Cortex .....	1996
<i>Riccardo Manzotti, Flavio Mutti, Giuseppina Gini, Soo-Young Lee</i>	



## TuBR07-Session:Soft Computing IV

Optimization in Multi-Modal Continuous Space with Little Globally Convex using Differential Evolution on Scattered Parents .....	2002
<i>Ryo Iwai, Shohei Kato</i>	
Identification of the Transition from Compensatory to Feedforward Behavior in Manual Control .....	2008
<i>Frank Drop, Daan Pool, Herman Damveld, Marinus M. van Paassen, Heinrich H. Buelthoff, Max Mulder</i>	
Improved Link-Based Cluster Ensembles for Microarray Data Analysis .....	2014
<i>Natthakan Iam-On, Tossapon Boongoen</i>	
Office Layout Support System for Polygonal Space using Interactive Genetic Algorithm – Generation of Room Arrangement Plans – .....	2020
<i>Yusuke Araki, Yuko Osana</i>	
Necessity of Parametric Conditions for Monotonic TSK Fuzzy Systems .....	2026
<i>Jin-Myung Won, Fakhri Karray</i>	
Ontology-based Framework for Reasoning with Fuzzy Temporal Data .....	2030
<i>Majid RobotJazi, Marek Reformat, Witold Pedrycz</i>	

## TuBR08-Special Session:Medical and Health Care Technology II

Human Activity Classification by ECG and Accelerometers Aided by Fuzzy Logic .....	2036
<i>Tatsuhiko Fujimoto, Hiroshi Nakajima, Naoki Tsuchiya, Hideya Marukawa, Yutaka Hata</i>	
Human Movement Trajectory Recording for Home Alone by Thermopile Array Sensor .....	2042
<i>Masato Kuki, Hiroshi Nakajima, Naoki Tsuchiya, Yutaka Hata</i>	
Soft Contact-lens Biosensor for Real-time Tear Sugar Monitoring at the Eye .....	2048
<i>Hiroyuki Kudo, Yoshitaka Hiranuma, MingXing Chu, Kumiko Miyajima, Takahiro Arakawa, Hideo Hiramatsu, Kohji Mitsubayashi</i>	
Implementation of a Intelligent System into a Small Physical Condition Monitoring Device for Healthcare .....	2052
<i>Manabu Nii, Yoshihiro Kakiuchi, Tomoya Takana, Kazusuke Maenaka, Kohei Higuchi</i>	
Reflective Photoplethysmography Sensor with Ring-Shaped Photodiode .....	2058
<i>Masahide Kano, Masatoshi Ishii, Kazuo Kasai</i>	
Acceleration sensor using SOI Wafer with Honeycomb Insulator .....	2062
<i>Yoshikazu Miyagawa, Tokuji Yokomatsu, Haruka Takeuchi, Kohei Higuchi, Kensuke Kanda, Takayuki Fujita, Kazusuke Maenaka</i>	

## TuBR09-Session:Artificial Intelligence

The Applications of Computational Intelligence in Radio Frequency Identification Research .....	2067
<i>Bo Xing, Wen-Jing Gao</i>	
Personalized Categorization of XML Query Results .....	2073
<i>Xiangfu Meng, Jian Zhou, Xiaopeng Zhang</i>	

Rtop-k: A Keyword Proximity Search Method based on Semantic and Structural Relaxation .....	2079
<i>Ting Li, Xin Li, Xiangfu Meng</i>	
An Approach to Action Planning Based on Simulated Annealing .....	2085
<i>Ricardo Rames Basilio Junior, Carlos Roberto Lopes</i>	
Grasp Planning Precomputation by Considering Center of Gravity of Objects and its Evaluation using OpenRAVE .....	2091
<i>Kosuke Tsuchiya, Satoshi Kagami, Wataru Yoshizaki, Hiroshi Mizoguchi</i>	
Scheduling a Wet Station Using a Branch and Bound Algorithm .....	2097
<i>Hyun-Jung Kim, Jun-Ho Lee, Tae-Eog Lee</i>	

### **TuBR10-Session:Human Perception**

On the Recognition of Timbre—A First Step Toward Understanding How Hearing-Impaired People Perceive Timbre .....	2103
<i>Rumi Hiraga, Kazuhiko Otsuka,</i>	
Modeling of the Synchronization of the Cutaneous Mechanoreceptors with Epidermal-Dermal Dynamics .....	2109
<i>Ryota Ishibashi, Hiroe Hashiguchi, Tadao Isaka, Sadao Kawamura</i>	
Evaluation System for Product Usability using Human Mimetic Robot Hand .....	2115
<i>Tadashi Matsumoto, Atsutoshi Ikeda, Jun Takamatsu, Tsukasa Ogasawara</i>	
Basic Study on Bilateral Swinging Interaction by Moving a Chair Together .....	2121
<i>Akira Kashiwagi, Tomo Hasegawa, Shigeru Wesugi</i>	
Regularization of The Structural Similarity Index Based on Preservation of Edge Direction .....	2127
<i>Peng Peng, Ze-Nian Li</i>	

### **TuBR11-NRF Special Session: Human-oriented Convergence Research No Paper Included**

Opening Remarks .....	N/A
<i>Eunkyoo Lee</i>	
The Basic Research Support in S&E of National Research Foundation of Korea : The Beginning of Transformation .....	N/A
<i>Eunjong Cha</i>	
Can We Control Cellular Thinking? .....	N/A
<i>Kwang-Hyun Cho</i>	
How Do We See What Objects are Made of? .....	N/A
<i>Daniel J. Kersten</i>	
Explore the Human: Focusing on Intelligent HCI Convergence .....	N/A
<i>Hyunseung Choo</i>	
Humanities based Convergence Research at the National Research Foundation of Korea .....	N/A
<i>Mahnwoo Kwon</i>	

## TuBR12-Session:Poster Session IV

The Role of Trust and Security in Smartphone Banking Continuance .....	2133
<i>Aries Susanto, Younghoon Chang, Hangjung Zo, Myeong Cheol Park</i>	
Optimising a Targeted Fund of Strategies using Genetic Algorithms .....	2139
<i>Evan Hurwitz, Tshilidzi Marwala</i>	
Human Body Pose Recognition from a Single-View Depth Camera .....	2144
<i>Po-Chi Huang, Shyh-Kang Jeng</i>	
How Effective is an Armrest in Mitigating Biodynamic Feedthrough? .....	2150
<i>Joost Venrooij, Mark Mulder, Marinus M. van Paassen, David A. Abbink, Frans C. T. van der Helm, Max Mulder, Heinrich H. Buelthoff</i>	
3D Edge Detection of Medical Images by Using Mathematical Morphological and Cellular Logic Array Processing Techniques .....	2156
<i>RameshChandra Gollapudi, Sathya Govindarajan, Towheed Sultana, Govindarajan Ethirajan</i>	
A Secure Architectur for Traffic Control Systems with SDLC Protocols .....	2161
<i>Ming Yu</i>	
Development and Evaluation of High Resolution Monocular Video See-through Display .....	2167
<i>Kazuyo Iwamoto, Jun Ishikawa</i>	
Automatic Shadow Detection in Intra Vascular Ultrasound Images .....	2173
<i>Maryam Basij, Mohammadreza Yazdchi, Payman Moallem, Shahed Mohammadi</i>	
Perception of Consonance about Harmonious Sounds .....	2178
<i>Masaomi Oda</i>	
Parallel Machines Scheduling in the Presence of Heterogeneous Selfish Customers .....	2184
<i>ChangJun Wang, DaYang Lei, YongJi Jia</i>	
Exploration Games played on a DDR Pad can Constitute Beneficial Physical Exercise .....	2190
<i>Kim Thy Nguyen, Bohan Li, Martin Masek, Yuwanuch Gulatee</i>	
Design and Realization of Competence Profiling Tool: Towards Improving Selection Process of Professionals for Maintenance Operation .....	2195
<i>Mahdi Bohlouli, Fazel Ansari, Madjid Fathi</i>	
An Efficient Model-Guided Framework for Alignment of Brain MR Image Sequences .....	2201
<i>Prasenjit Mondal, Jayanta Mukhopadhyay, Shamik Sural, Pinak Pani Bhattacharyya</i>	
Block-based Compressed Sensing of Image Using Directional Tchebichef Transforms .....	2207
<i>Qian Li, Hongqing Zhu</i>	
Wireless Haptic Rendering for Mobile Platforms .....	2213
<i>Wael Abdelrahman, Lei Wei, James Mullins, Saeid Nahavandi</i>	
New LMI Formulation for Observed-State Feedback Stabilization .....	2218
<i>Ji-Chang Lo</i>	
Fish-Eye Distortion Correction Based on Midpoint Circle Algorithm .....	2224
<i>Yongle Li, Maojun Zhang, Yu Liu, Zhihui Xiong</i>	

Automatic Content Extraction and Visualization of Thai Websites for Improved Information Representation .....	2229
<i>Wigrati Thanadechtemapat, Chun Che Fung</i>	
Human in the Loop: Optimal Control of Driving Simulators and New Motion Quality Criterion .....	2235
<i>Imad Al Qaisi, Ansgar Traechtler</i>	
Maximization of the Resource Production in RTS Games through Stochastic Search and Planning .....	2241
<i>Thiago Naves, Carlos Lopes</i>	
LMI-based Non-quadratic stabilization Conditions for T-S Fuzzy Systems with Delays in State and Input	2247
<i>Shun-Hung Tsai, Ching-Lun Li</i>	
Non-Uniform Sparsity in Rapid Compressive MRI .....	2253
<i>Fuleah Abdul Razzaq, Shady Mohamed, Asim Bhatti, Saeid Nahavandi</i>	
A Multiple Scattering in Participating Media for Real Time Rendering .....	2259
<i>Yuanlong Wang, Ping Guo</i>	
The Empathy Machine .....	2265
<i>Nikolai Kummer, David Kadish, Aleksandra Dulic, Hodayoun Najjaran</i>	
Implicit Authentication based on Ear Shape Biometrics using Smartphone Camera during A Call .....	2272
<i>Ali Fahmi Perwira Negara, Elyor Kodirov, Deok Jai Choi, Guee Sang Lee</i>	
Objective Related Knowledge Driven Product Feature Definition .....	2277
<i>Laszlo Horvath, Imre J. Rudas</i>	
A Morphable 3D-Model of Korean Faces .....	2283
<i>Ahyoung Shin, Seong-Whan Lee, Heinrich H. Buelthoff, Christian Wallraven</i>	
Anomaly Detection for Capsule Endoscopy Images Using Higher-order Local Auto Correlation Features	2289
<i>Erzhong Hu, Hirokazu Nosato, Hidenori Sakanashi, Masahiro Murakawa</i>	
Scene Image Classification: Some Novel Descriptors .....	2294
<i>Sugata Banerji, Atreyee Sinha, Chengjun Liu</i>	
Uses of Facial Expressions of Android Head System according to Gender and Age .....	2300
<i>Ho Seok Ahn</i>	
BIOINFORMATICS APPLIED TO PUBLIC SAFETY: .....	2306
<i>Manoel Alves, Carlos Speglich, Fernando M.Araujo Moreira, Luis Carlos Trevelin</i>	
Efficient and Effective Online Image Retrieval .....	2312
<i>David Edmundson, Gerald Schaefer</i>	
Therapist-centred Design of NUI based Therapies in a Neurological Care Hospital .....	2318
<i>Junia Anacleto, Rodrigo Silvestre, Carlos Souza Filho. Sidney Fels, Bruno Santana</i>	
Recognition of Partially Occluded Face Using Gradientface and Local Binary Patterns .....	2324
<i>George D. C. Cavalcanti, Ing Ren Tsang, Josivan R. Reis</i>	
A Two-Step Video Subsequence Identification based on Bipartite Graph Matching .....	2330
<i>Zenilton Patrocínio Jr., Silvio Guimaraes</i>	
Speaker Verification Using Type-2 Fuzzy Gaussian Mixture Models .....	2336
<i>Ing Ren Tsang, Dimas Gabriel, Hector N. B. Pinheiro, George D. C. Cavalcanti</i>	

Video Colortoning .....	2341
<i>Ing Ren Tsang, Diogo C. Lemos, Dario S. M. Pinheiro, George D. C. Cavalcanti, Ing Jyh Tsang</i>	
Neighborhood Coding for Image Representation and Neighborhood Operations .....	2345
<i>Tiago B. A. de Carvalho, Maria A. A. Sibaldo de Carvalho, Denise J. Tenorio, Ing Ren Tsang, George D. C. Cavalcanti, Ing Jyh Tsang</i>	
MLPBOOST: A Combined Adaboost / Multi-Layer Perception Network Approach for Face Detection .	2350
<i>George D. C. Cavalcanti, Joao Paulo Magalhaes, Ing Ren Tsang, Rafael M. Barreto</i>	
Face Detection under Illumination Variance using Combined Adaboost and Gradientfaces .....	2354
<i>Ing Ren Tsang, Joao Paulo Magalhaes, George D. C. Cavalcanti</i>	
Pupil segmentation using Pulling & Pushing and BSOM Neural Network .....	2359
<i>Carlos A. C. M. Bastos, Ing Ren Tsang, Gabriel S. Vasconcelos, George D. C. Cavalcanti</i>	
Optimization Technique of Queries with Plural Predicates for a Topic Map Database .....	2365
<i>Atsushi Ogata, Masaomi Kimura</i>	
Land Cover Classification Using Interval Type-2 Fuzzy Clustering for Multi-spectral Satellite Imagery .	2371
<i>Long Thanh Ngo, Dzung Dinh Nguyen</i>	
Embedded Self-Healing Layer for Detecting and Recovering Sensor Faults in Body Sensor Networks ...	2377
<i>Stefano Galzarano, Giancarlo Fortino, Antonio Liotta</i>	

### **WeAR01-Session: Decision and Control Systems I**

The Sliding Mode Controller with an Additional Proportional Controller for Fast Tracking Control of Second Order Systems .....	2383
<i>Boo Won Kang, Seung Gyu Kang</i>	
Robust Control with Optimization of Robustness Index .....	2389
<i>Wojciech Giernacki</i>	
Energy-Saving Algorithm for Pumping Systems Based on Fuzzy Decision Making .....	2395
<i>Wei Chang, Jun-Wei Chang, Hsu Yin, Wen-June Wang, Hsin-Yi Chung, Ya-Ching Chang, Hsiang-Chieh Chen</i>	
Asynchronous Correction for Cascade Composition of Finite State Machines .....	2401
<i>Jung-Min Yang, Seong Woo Kwak</i>	
Applying Input/Output Control of Asynchronous Sequential Machines to Dual Ring Counters .....	2407
<i>Jung-Min Yang, Seong Woo Kwak</i>	

### **WeAR02-Special Session: Conflict Resolution I**

A Complete Binary Relation to Compare Coalition Influence for Social Welfare Function .....	2413
<i>Kentaro Kojima, Takehiro Inohara</i>	
Ordinal Preferences Construction for Multiple-Objective Multiple-Participant Conflicts .....	2418
<i>Michele Bristow, Keith W. Hipel, Liping Fang</i>	

Water Allocation under Climate Change in the Qezelozan-Sefidrood Watershed .....	2424
<i>Mahboubeh Zarezadeh, Saeid Morid, Kaveh Madani, Abdolrahim Salavitar, Keith W. Hipel</i>	
The Identification of Risk Factors in Brownfield Redevelopment: An Empirical Study .....	2429
<i>Yuming Zhu, Lili Shi, Keith W. Hipel</i>	
Danjiangkou Water Diversion Conflict in China .....	2435
<i>Shawei He, Keith W. Hipel, Marc Kilgour</i>	
Analysis of Public Discussion in Participatory Planning Process .....	2441
<i>Madoka Chosokabe, Hiroyuki Sakakibara, Takeshi Miyaji, Tomoaki Nishimura</i>	

### **WeAR03-Special Session: Intelligent Learning in Control Systems I**

On the Conjugate Gradients (CG) Training Algorithm of Fuzzy Neural Networks (FNNs) via Its Equivalent Fully Connected Neural Networks (FFNNs) .....	2446
<i>Jing Wang, C. L. Philip Chen, Chi-Hsu Wang</i>	
Adaptive State Aggregation for Reinforcement Learning .....	2452
<i>Kao-Shing Hwang, Yu-Jen Chen, Wei-Cheng Jiang</i>	
Intelligent Adaptive Steering Control for Electric Unicycles .....	2457
<i>Yi-Yu Li, Ching-Chih Tsai, Chih-Min Lin</i>	
The SOS-based Extended Design of Polynomial Fuzzy Control .....	2463
<i>Gwo-Ruey Yu, Lun-Wei Huang</i>	
A Method to Detect and Remove Emergent Behavior Caused by Overgeneralization .....	2469
<i>Mohammad Moshirpour, Seyedehmehrnaz Mireslami, Behrouz Far</i>	
A Negotiation Method for Multiple Participants Using Case Based Reasoning .....	2475
<i>Hung-Lu Chu, Alan Liu</i>	

### **WeAR04-Special Session: Information Assurance & Intelligent Multimedia- Mobile Communications**

Gender Recognition with Limited Feature Points from 3-D Human Body Shapes .....	2481
<i>Jinshan Tang, Xiaoming Liu, Huaining Cheng, Kathleen Robinette</i>	
A 3-D Bilateral Filter for Speckle Reduction in 3-D Ultrasound Images for Cattle Follicle Segmentation .....	2485
<i>Jinshan Tang, Shengwen Guo</i>	
New Region Feature Descriptor-based Image Registration Method .....	2489
<i>Francis Bowen, Eliza Du, Jianghai Hu</i>	
A Framework for GPS/INS based Portable Positioning System .....	2495
<i>Xin Xu, Yinglin Wang, Heming Xu, Xin Tong, Xiaoming Liu, J. Tang</i>	
Image Encryption Algorithm Based on A New Combined Chaotic System .....	2500
<i>C. L. Philip Chen, Tong Zhang, Yicong Zhou</i>	

## WeAR05-Special Session: Intelligent Internet Systems

A Novel Moving Vehicles Extraction Algorithm over Wireless Internet .....	2505
<i>Bo-Hao Chen, Shih-Chia Huang</i>	
A Grey System-based Approach for the Sharpening of Images .....	2510
<i>Lih-Jen Kau, Tien-Lin Lee</i>	
Estimation of Carrier Frequency Offsets for Uplink OFDMA System Using A Hybrid Taguchi-Mutated-Particle Swarm Optimization Approach .....	2516
<i>Tan-Hsu Tan, Yong-Chun Li, Cheng-Chun Chang, Yung-Fa Huang</i>	
Orthogonal Frequency Division Multiplexing; Carrier Frequency Offset; Bisection Method .....	2522
<i>Chia-Hsin Cheng</i>	
A Cloud Network-based Power Management Technology for Smart Home Systems .....	2527
<i>Lih-Jen Kau, Bi-Ling Dai, Chih-Shen Chen, Sung-Hung Chen</i>	

## WeAR06-Session: Intelligent Vehicular Systems & Control

Real-Time Decision Making for Urban Vehicle Navigation .....	2533
<i>C. L. Philip Chen, Jin Zhou, Wei Zhao</i>	
Vehicular Adaptive Optimal Cruise Control with Multiple Objectives .....	2539
<i>Bo-Rong Liang, Wei-Song Lin</i>	
Detection and Removal of Adherent Noises in Video from A Moving Camera .....	2545
<i>HuanYu Wang, Zhiming Tan, Akihiro Higashi</i>	
Model Predictive Control of Autonomous Underwater Vehicles based on a Simplified Dual Neural Network .....	2551
<i>Zheng Yan, Siu Fong Chung, Jun Wang</i>	
Fluent Coordination of Autonomous Vehicles at Intersections .....	2557
<i>Laleh Makarem, Denis Gillet</i>	
Information Sharing Among Autonomous Vehicles Crossing an Intersection .....	2563
<i>Laleh Makarem, Denis Gillet</i>	

## WoAR07-Special Session: Neural Computation and Applications

Evaluating Movement skills by Extended Neural Complexity .....	2568
<i>Woo Young Kwon, Il Hong Suh, Bum-Jae You, Sang-Rok Oh</i>	
Particle Filtering by Sigmoidal Weight Update for Speech Pitch Correction .....	2574
<i>Han-Gyu Kim, Jeong-Sik Park, Gil-Jin Jang, Yung-Hwan Oh</i>	
Probabilistic Human Intention Modeling for Cognitive Augmentation .....	2580
<i>Byunghun Hwang, Young-Min Jang, Rammohan Mallipeddi, Minho Lee</i>	
Efficient Face Recognition Based on MCT and I(2D)2PCA .....	2585
<i>Biho Kim, Hyung-Min Park</i>	
Distributed Consensus Control Using Neural Network for a Class of Nonlinear Multi-agent Systems ...	2591
<i>Guo-Xing Wen, C. L. Philip Chen</i>	

## WeAR08-Special Session: Medical and Health Care Technology III

Data-Oriented Maintenance of Clinical Pathway using Clustering and Multidimensional Scaling .....	2607; 8
<i>Shusaku Tsumoto, Shoji Hirano</i>	
Average Difference Imaging and Its Application to Ultrasonic Nondestructive Evaluation of Wind Turbine Blade .....	2601
<i>Koki Tsukuda, Tadahito Egawa, Kazuhiko Taniguchi, Yutaka Hata</i>	
Challenge of Normality Evaluation by using Micro-Size Tension Measurement Device in Anterior Cruciate Ligament Reconstruction .....	2605
<i>Shogo Kawaguchi, Kouki Nagamune, Yuichiro Nishizawa, Yuichi Hoshino, Tomoyuki Matsumoto, Seiji Kubo, Takehiko Matsushita, Ryosuke Kuroda, Masahiro Kurosaka</i>	
New Feature Definition for Improvement of Nursing-care Text Classification .....	2610
<i>Manabu Nii, Yoshinori Hirohata, Atsuko Uchinuno, Reiko Sakashita</i>	
Systems Health Care - The Aspect of Home and Medical Care .....	2616
<i>Hiroshi Nakajima, Toshikazu Shiga, Yutaka Hata</i>	
Classification of Cross-section Area of Spinal Canal on Kernel-based Support Vector Machine .....	2622
<i>Chao-Cheng Wu, Hsiao-Chi Li, Yung-Hsiao Chiang, Jiannher Lin</i>	

## WeAR09-Session: Knowledge Representation

A Method for Automatically Creating an Interactive Semantic Video based on AR System .....	2626
<i>Kee-Sung Lee, Ahmad Nurzid Rosli, Geun-Sik Jo</i>	
A Top-k Keywords Searching Approach based on the Relationship of Keywords .....	2632
<i>Chunxiao Liu, Xiangfu Meng, Ke Wei</i>	
Understanding and Structuring NL Descriptions: The Case of 101 Animals .....	2638
<i>Julia M. Taylor, Victor Raskin</i>	
Generating Landmark Overviews with Geo-tagged Web Photos .....	2644
<i>Wei He, RunSheng Li, Zhenyu Wu, Jun Hu, Yu Liu</i>	
Proposal of a Topic Map Database Indexing Method .....	2650
<i>Ryosuke Ota, Masaomi Kimura</i>	
Revisiting Concepts of Topicality and Novelty - A New Simple Graph Model that Rewards and Penalizes Based On Semantic Links .....	2656
<i>Fei Yu, Eugene Santos Jr.</i>	

## WeAR10-Special Session: Recent Advances in Affective Computing

Classification of Affects Using Head Movement, Skin Color Features and Physiological Signals .....	2664
<i>Hamed Monkaresi, Sazzad Hussain, Rafael Calvo</i>	
LDCRFs-Based Hand Gesture Recognition .....	2670
<i>Mahmoud Elmezain, Ayoub Al-Hamadi</i>	



Facial Asymmetry Analysis Based on 3-D Dynamic Scans .....	2676
<i>Wei Quan, Bogdan J. Matuszewski, Lik-Kwan Shark</i>	
Recognizing Gestural Actions .....	2682
<i>Omer Rashid Ahmad, Ayoub Al-Hamadi</i>	
Facial Feature Point Detection using Simplified Gabor Wavelets and Confidence-based Grouping .....	2687
<i>Axel Panning, Ayoub Al-Hamadi, Bernd Michaelis</i>	
Analysis of Learning Process of Acquiring Embodied Knowledge and Memory Mechanism Using Near-infrared Spectroscopy .....	2693
<i>Keiichi Watanuki, Yusuke Asaka</i>	

### **WeAR11-Session: Machine Learning**

Music Genre Classification using Dynamic Selection of Ensemble of Classifiers .....	2700
<i>Paulo Ricardo Lisboa de Almeida, Eunelson Jose da Silva Junior, Alceu de Souza Britto Jr., Luis Eduardo Soares de Oliveira, Tatiana Montes Celinski, Alessandro Lameiras Koerich</i>	
Fuzzy Classifier with Support Vector Learning for Image Retrieval Using A Specified Object .....	2706
<i>Guo-Cyuan Chen, Chia-Feng Juang</i>	
FNGLVQ FPGA Design for Sleep Stages Classification based on Electrocardiogram Signal .....	2711
<i>Eka Muhammad, Fajar Muhammad, Iqbal Muhammad, Wisnu Jatmiko, Agus I Made</i>	
Supervised Manifold Learning based on Biased Distance for View Invariant Body Pose Estimation ....	2717
<i>Dongcheol Hur, Christian Wallraven, Seong-Whan Lee</i>	
Predictive Moving Target Defense .....	2721
<i>Richard Colbaugh, Kristin Glass</i>	
Texture Retrieval using Co-occurrence Matrix and Symbolic Interval Data under Scale and Rotation Invariance .....	2728
<i>Carlos de Almeida, Renata de Souza, Ana Candeias</i>	

### **WeBR01-Session: Decision and Control Systems II**

Minimum-Time Trajectory Planning for Helicopter UAVs using Computational Dynamic Optimization	2732
<i>Nathan Xu, Guowei Cai, Wei Kang, Ben M. Chen</i>	
A Game Theoretical Representation for the Rendezvous Problem .....	2738
<i>James Lindsay, Sidney Givigi</i>	
Passive Dynamic Walking with Knee and Fixed Flat Feet .....	2744
<i>Joohyung Kim, Chong-Ho Choi, Mark Spong</i>	
Approximation Method for Chance-Constrained Programming of Social Consensus Formation Concerning IT Risk Countermeasure .....	2751
<i>Masaki Samejima, Ryoichi Sasaki</i>	
Balancing Control of a Biped Robot .....	2756
<i>Joohyung Kim, HoSeong Kwak, Heekuk Lee, Keehong Seo, Bokman Lim, Minhyung Lee, Jusuk Lee, Kyungsik Roh</i>	

## WeBR02-Special Session: Conflict Resolution II

The Upper Churchill Falls Development Negotiations .....	2762
<i>Yasser T. Matbouli, Keith W. Hipel, D. Marc Kilgour</i>	
Agent Modeling for Evacuation and Amature Rescue under Survivability-Critical States in Underground Flooding .....	2768
<i>Eishiro Higo, Norio Okada</i>	
Evaluation of Source Water Protection Strategies in Waterloo Region based on Grey Systems Theory and PROMETHEE II .....	2775
<i>Hanbin Kuang, Keith W. Hipel, D. Marc Kilgour</i>	
Conflict Resolution and Mediation .....	2780
<i>Rami Kinsara, D. Marc Kilgou, Keith W. Hipel</i>	
Locating Vendors in Stackelberg Competition in A Linear Monocentric City .....	2785
<i>Kei Fukuyama, Jun Kimura, Yuki Ikeda</i>	

## WeBR03-Special Session: Intelligent Learning in Control Systems II

An Intelligent Learning Model for Stochastic Data .....	2791
<i>Bi Fan, Geng Zhang, Han-Xiong Li</i>	
An Experimental Validation of Reinforcement Learning Applied to the Position Control of UAVs .....	2796
<i>Sergio Barros, Sidney Givigi, Cairo Nascimento</i>	
Adaptive Iterative Learning Control for Multi-Agent Systems Consensus Tracking .....	2803
<i>Shiping Yang, Jian-Xin Xu</i>	
Integration of DNA and Real Coded GA for the Design of PID-Like Fuzzy Controllers .....	2809
<i>Chun-Te Wu, Jin-Ping Tien, Tzuu-Hseng S. Li</i>	
Parameter Tuning of Large Scale Support Vector Machines using Ensemble Learning with Applications to Imbalanced Data Sets .....	2815
<i>Hiroataka Nakayama, Yeboon Yun, Yuki Uno</i>	

## WeBR04-Special Session: Nature-Inspired Algorithms for Data Mining

TWMAN+: A Type-2 Fuzzy Ontology Model to Malware Behavior Analysis .....	2821
<i>Hsien-De Huang, Chang-Shing Lee, Hani Hagrass, Hung-Yu Kao</i>	
Missing Categorical Data Imputation Approach Based on Similarity .....	2827
<i>Sen Wu, Xiaodong Feng, Yushan Han, Qiang Wang</i>	
A Novel Multiobjective EA-based Clustering Algorithm with Automatic Determination of the Number of Clusters .....	2833
<i>Chun-Wei Tsai, Wen-Ling Chen, Ming-Chao Chiang</i>	
A Hyper-heuristic Clustering Algorithm .....	2839
<i>Chun-Wei Tsai, Huei-Jyun Song, Ming-Chao Chiang</i>	

Field Weighting for Automatic Bug Triaging Systems .....	2845
<i>Vibhor Jain, Srini Ramaswamy, Anand Rath</i>	

**WeBR05-Session: Information Assurance and Intelligence Multimedia Mobile Communications**

Exploration of Efficacy of Gland Morphology and Architectural Features in Prostate Cancer Gleason Grading .....	2849
<i>Clara Mosquera Lopez, Sos Aгаian, Isaac Sanchez, Ali Almunashri, Osman Zinalabdin, Amar Al Rikabi, Ian Thompson</i>	
Implicit Active Contours for N-Dimensional Biomedical Image Segmentation .....	2855
<i>Si Yong Yeo</i>	
Imbalanced Data Classification Algorithm Based on Boosting and Cascade Model .....	2861
<i>Xiaolong Zhang, Chao Cheng</i>	
Audio Watermarking in Partially Compressed-Encrypted Domain .....	2867
<i>Subramanyam Venkata, Sabu Emmanuel</i>	
Life Logging Practice for Human Behavior Modeling .....	2873
<i>Pil Ho Kim, Fausto Giunchiglia</i>	
Computer Aided Diagnosis of Lesions Extracted From Large Skin Surfaces .....	2879
<i>Isaac Sanchez, Sos Aгаian</i>	

**WeBR07-Special Session: Computational Collective Intelligence**

Operations of Grid General Type-2 Fuzzy Sets based on GPU computing .....	2885
<i>Long Thanh Ngo</i>	
Automatic Lumen Segmentation in CT and PC-MR Images of Abdominal Aortic Aneurysm .....	2891
<i>Ali Almunashri, Ender Finol, Sos Aгаian</i>	
A Framework for Data Warehouse Federations Building .....	2897
<i>Bernadetta Mianowska, Marcin Maleszka, Ngoc Thanh Nguyen</i>	
Active Set Model for Agent Consensus and Integration .....	2903
<i>Germano Resconi</i>	
Combining a Multi-Objective Optimization Approach with Meta-Learning for SVM Parameter Selection .....	2909
<i>Pericles B. C. de Miranda, Ricardo B. C. Prudencio, Andre Carlos P. L. F. de Carvalho, Carlos Soares</i>	
Experimenting with Ontology Distances in Semantic Social Networks: Methodological Remarks .....	2915
<i>Jerome David, Jerome Euzenat, Jason J. Jung</i>	

## WoBR08-Special Session: Medical and Health Care Technology I

Development of a Method for Extracting Graph Elements from Mathematical Graphs .....	2921
<i>Jianjun Chen, Ryoji Nagaya, Noboru Takagi</i>	
Barrier-free Walk: A Social Sharing Platform of Barrier-free Information for Sensory/Physically-impaired and Aged People .....	2927
<i>Takahiro Miura, Ken-ichiro Yabu, Sakutarō Ikematsu, Asuka Kano, Mari Ueda, Junya Suzuki, Masatsugu Sakajiri, Tohru Ifukube</i>	
Usages and Needs of Current Touchscreen Interfaces in Japanese Visually Impaired People: A Questionnaire Survey .....	2933
<i>Takahiro Miura, Haruo Matsuzaka, Masatsugu Sakajiri, Tsukasa Ono</i>	
Post-Saccadic Event Related Potential toward New Information Retrieval .....	2939
<i>Hideaki Touyama</i>	
Effect of Voice Pitch Control Training Using a Two-Dimensional Tactile Feedback Display System ....	2943
<i>Masatsugu Sakajiri, Shigeki Miyoshi, Kenryū Nakamura, Satoshi Fukushima, Tohru Ifukube</i>	
Development of the Eye Input Device Using Eye Movement Obtained by Measuring the Center Position of the Pupil .....	2948
<i>Yuki Oyabu, Hironobu Takano, Kiyomi Nakamura</i>	

## WeBR09-Special Session: Computational Awareness

Development of a User Interface Aware of Users' Skills and Computer Environments .....	2953
<i>Kaoru Sugita, Masao Yokota</i>	
Decision Boundary Learning Based on an Improved PSO Algorithm .....	2958
<i>Kyohei Watarai, Yuya Kaneda, Qiangfu Zhao</i>	
Variation Aware Control for Reliability .....	2963
<i>Yong Liu, Qiangfu Zhao, Neil Yen</i>	
Assessing Emotions in a Cross-Cultural Context .....	2967
<i>Maria Alejandra Quiros-Ramirez, Takehisa Onisawa</i>	
To Develop the Ubiquitous Adventure RPG (Role Play Game) Game-Based Learning System .....	2973
<i>Jui-Hung Chen, Timothy K. Shih, Jui-Yi Chen</i>	
Feeling Awareness in Interactive Differential Evolution Based Facial Image Generation .....	2979
<i>Qiangfu Zhao, Cheng-Hsiung Hsieh</i>	

## WeBR10-Special Session: Human Machine Interface and Haptics

A Software Development Process Model for Gesture-Based Interface .....	2985
<i>Marcelo Guimaraes, Jose Brega, Valeria Martins</i>	
Augmented Optometry Training Simulator with Multi-point Haptics .....	2991
<i>Lei Wei, Zoran Najdowski, Wael Abdelrahman, Saeid Nahavandi, Harrison Weisinger</i>	

Exploration of Virtual Surface Features with a High Performance Tactile and Force Feedback Interface <i>Nadia Garcia-Hernandez, Ioannis Sarakoglou, Nikos Tsagarakis, Darwin Caldwell</i>	2998
Effects of Visual Information on Teaching of Passive Drawing using a Haptic Interface ..... <i>Nozomi Toyoda, Kazuki Matsunaga, Tetsuro Yabuta</i>	3004
Neglect Benevolence in Human Control of Swarms in the Presence of Latency ..... <i>Phillip Walker, Andreas Kolling, Nilanjan Chakraborty, Steven Nunnally, Katia Sycara, Michael Lewis</i>	3009

### **WeBR11-Session: Transportation**

Human-Centered Steer-by-Wire Design: Steering Wheel Dynamics Should be Task Dependent ..... <i>Mark Mulder, David A. Abbink, Erwin R. Boer, Marinus M. van Paassen</i>	3015
Use of a Simulator to Assess the Application of Economic Driving Techniques by Truck Drivers ..... <i>Tales Bogoni, Marcio Pinho</i>	3020
Recognizing Temporary Changes on Highways for Reliable Autonomous Driving ..... <i>Young-Woo Seo, David Wettergreen, Wende Zhang</i>	3027
Novel View Synthesis for Traffic Accident Scene from Sparse Uncalibrated Sample Views ..... <i>Bodong Liang</i>	3033
Emergent Features of Self Separation in Flight ..... <i>Marinus M. van Paassen, Jochem Gordijn, Joost Ellerbroek, Clark Borst, Max Mulder</i>	3039
Consideration Concerning Skill Judgment of Inverted Pendulum Stabilization with Dynamic Simulator <i>Wataru Kai, Masaki Izutsu, Shoshiro Hatakeyama</i>	3045

### **WeCR01-Session: Decision and Control Systems III**

A Case Study on Using Personalized Data Mining for University Curricula ..... <i>Rainer Knauf, Yoshitaka Sakurai, Kohei Takada, Setsuo Tsuruta</i>	3051
Generalized Predictive Control for Space Teleoperation Systems with Long Time-varying Delays ..... <i>Yanhua Yang, Fangping Yang</i>	3057
Feedback Control Design for Cluster Tools with Wafer Residency Time Constraints ..... <i>Chulhan Kim, Tae-Eog Lee</i>	3063
Variable-resolution State Roadmap Generation Considering Safety Constraints for Car-like Robot ..... <i>Jingyu Xiang, Yuichi Tazaki, Tatsuya Suzuki, Blaine Levedahl</i>	3069

### **WeCR02-Special Session: Conflict Resolution III**

A Lexicographic Quota Model for Allocating Initial Discharge Permits for Industrial Source Points in a Lake Basin: A Case Study for Lake Tai in Jiangsu, China ..... <i>Gang Liu</i>	3075
Fuzzy Truth Values in Option Prioritization for Preference Elicitation in the Graph Model ..... <i>M. Abul Bashar, Marc Kilgour, Keith W. Hipel</i>	3081

Role of Sharing Concerns to Scope Flood Risk Reduction Issues Case study of a Series of Workshops conducted in Muraida Community, Shiga Prefecture, Japan .....	3087
<i>Junho Choi, Hirokazu Tatano</i>	
Utilization of the Yonmenkaigi System Method for Community Building of a Disaster Damaged Village in Korea .....	3093
<i>Jong-il Na, Norio Okada, Liping Fang</i>	
Flood Risk Awareness and Preparedness : The Role of Trust in Information Sources .....	3099
<i>Subhajyoti Samaddar, Bijay Anand Misra, Hirokazu Tatano</i>	
 <b>WeCR03-Special Session: Intelligent Learning in Control Systems III</b>	
Particle Swarm Optimization for Solving the Inverse Kinematics of 7-DOF Robotic Manipulators .....	3105
<i>Hsu-Chih Huang, Chien-Po Chen, Pei-Ru Wang</i>	
Self-Tuning PID Control Using Recurrent Wavelet Neural Networks .....	3111
<i>Ching-Chih Tsai, Ya-Ling Chang</i>	
Real-Time Tactical Motion Planning and Obstacle Avoidance for Multi-Robot Cooperative Reconnaissance .....	3117
<i>Adrian Boeing, Sushil Pangeni, Thomas Braunl, Chang Su Lee</i>	
Facial Expression Recognition Based on Mixture of Basic Expressions and Intensities .....	3123
<i>Kai-Tai Song, Shuo-Cheng Chien</i>	
Collision-Free Guidance for Passive Robot Walking Helper .....	3129
<i>Yi-Che Huang, Cheng-Je Wu, Chun-Hsu Ko, Kuu-Young Young</i>	
 <b>WeCR04-Session: Systems Modeling</b>	
Calau: An Environment for Modeling and Analyzing Embedded Real-Time Systems .....	3135
<i>Ermeson Andrade, Marcelo Alves, Bruno Nogueira, Paulo Maciel</i>	
Framework of Wargame CGF System based on Multi-Agent .....	3141
<i>Xin Tan, Shiming Lai, Wei Wang, Maojun Zhang</i>	
Lyapunov Learning Algorithm for Quasi-ARX Neural Network to Identification of Nonlinear Dynamical System .....	3147
<i>Mohammad Abu Jami'in, Imam Sutrisno, Jinglu Hu</i>	
An Evolutionary Algorithm with Path-Relinking for the Parallel Machine with Job Splitting .....	3153
<i>Paulo Lucio de Oliveira Junior, Jose Elias Claudio Arroyo, Andre Gustavo dos Santos, Luciana Brugiolo Goncalves, Alcione de Paiva Oliveira</i>	
From Composites to Service Systems: The Role of Emergence in Service Design .....	3159
<i>Anshuman Saxena, Alain Wegmann</i>	

## **WeCR05-Special Session: Ambient-adaptive Intelligent lighting systems**

Distributed Lighting Control of Locally Intelligent Luminaire Systems .....	3167
<i>Haixu Wang, Ashish Pandharipande, David Caicedo, Paul van den Bosch</i>	
Intelligent Lighting System with an Additional Energy-Saving Mechanism .....	3173
<i>Mitsunori Miki, Masashi Nagano, Masato Yoshimi, Hiroyuki Yonemoto, Kenta Yoshida</i>	
Faster Illuminance Convergence for the Intelligent Lighting System Using Visible Light Communication .....	3179
<i>Mitsunori Miki, Kenta Yoshida, Masato Yoshimi, Hirotaka Ito, Masashi Nagano</i>	
A Basic Study on Autonomous Decentralized Operation for Distributed Energy Systems .....	3185
<i>Keiichiro Yasuda, Shunsuke Oya, Kenichi Tamura</i>	
User Localization using Ultrasonic Presence Sensing Systems .....	3191
<i>Ashish Pandharipande, David Caicedo</i>	

## **WeCR06-Special Session: Knowledge Acquisition and Mining**

Knowledge Based Innovation Detection and Control Framework to Foster Scientific Research Projects in Material Science .....	3197
<i>Mareike Dornhofer, Alexander Holland, Madjid Fathi</i>	
Transfer Clustering via Constraints Generated from Topics .....	3203
<i>Litao Yu, Yanzhong Dang, Guangfei Yang</i>	
Association Rules Based Algorithm for Identifying Outlier Transactions in Data Stream .....	3209
<i>Li-Jen Kao, Yo-Ping Huang</i>	
Integrating intelligent agent and ontology for services discovery on cloud environment .....	3215
<i>Yue-Shan Chang, Tong-Ying Juang, Che-Hsiang Chang, Jing-Shyang Yen</i>	
A Study on the Consistency of Human Perception and Machine Recognition of an Emotional Corpus ..	3221
<i>Tsang-Long Pao, Ren-Fu Luo, Yu-Ji Li</i>	
Development of Hand-cleaning Service-oriented Autonomous Navigation .....	3227
<i>Chia-Long Chan, Hsin-Han Chiang, Yen-Lin Chen, Geng-Yen Chen, Tsu-Tian Lee</i>	

## **WoCR07-Session: Image and Video Processing and Communication Systems**

Improving the Quality of Tags Using State Transition on Progressive Image Search and Recommendation System .....	3233
<i>Wen-Hau Du, Jer-Wei Rau, Jen-Wei Huang, Yung-Sheng Chen</i>	
A New Image Watermarking Algorithm Using CT and Normalization .....	3239
<i>Dandan Zhu, Qiang Tong</i>	
Text-to-Image Retrieval Based on Incremental Association via Multimodal Hypernetworks .....	3245
<i>Jung-Woo Ha, Beom-Jin Lee, Byoung-Tak Zhang</i>	
A Series of Stochastic Models for Human Behavior Analysis .....	3251
<i>Thi Thi Zin, Pyke Tin, Takashi Toriu, Hiromitsu Hama</i>	

## WeCR08-Special Session: Medical and Health Care Technology V

Developing a New Foot Muscle Model of Gait using a Bayesian Network .....	3257
<i>Jun Inoue, Kazuya Kawamura, Masakatsu G. Fujie</i>	
A Study of Detection of Trip and Fall Using Doppler Sensor on Embedded Computer .....	3263
<i>Masaru Uegami, Takeshi Iwamoto, Michito Matsumoto</i>	
A Development of Surgery Instrument Pose Support System for Mosaicplasty by Using Force Distribution .....	3269
<i>Satoshi Nishino, Takayasu Toyoshima, Kouki Nagamune, Yuichi Hoshino, Tomoyuki Matsumoto, Seiji Kubo, Takehiko Matsushita, Ryosuke Kuroda, Masahiro Kurosaka</i>	
Theory and Characterization of a Top-Thread Coverstitched Stretch Sensor .....	3275
<i>Guido Gioberto, Lucy Dunne</i>	
Toward an augmented shoe for preventing falls related to physical conditions of the soil .....	3281
<i>Martin J.-D. Otis, Bob-Antoine J. Menelas</i>	
Gait and ADL Rehabilitation using a Whole Body Motion Support Type Mobile Suit Evaluated by Cerebral Activity .....	3286
<i>Eiichirou Tanaka, Shozo Saegusa, Yasuo Iwasaki, Louis Yuge</i>	
Motion Planning for Flexible Needle in Multilayer Tissue Environment with Obstacles .....	3292
<i>Benyan Huo, Xingang Zhao, Jianda Han, Weiliang Xu</i>	

## WeCR09-Special Session: Implicit and Human Centered Tagging of Multimedia

An Ampirical Study to Address the Problem of Unbalanced Data Sets in Sentiment Classification .....	3298
<i>Asmaa Mountassir, Houda Benbrahim, Ilham Berrada</i>	
Human-Centered Implicit Tagging: Overview and Perspectives .....	3304
<i>Mohammad Soleymani, Maja Pantic</i>	
Electrodermal Activity Applied to Violent Scenes Impact Measurement and User Profiling .....	3310
<i>Julien Fleureau, Cedric Penet, Philippe Guillotel, Claire-Helene Demarty</i>	
Mapping Discrete Emotions into The Dimensional Space: An Empirical Approach .....	3316
<i>Holger Hoffmann, Andreas Scheck, Timo Schuster, Steffen Walter, Kerstin Limbrecht, Harald Traue, Henrik Kessler</i>	
Exploiting Implicit Affective Labeling for Image Recommendations .....	3321
<i>Marko Tkalcic, Ante Odic, Andrej Kosir, Jurij Tasic</i>	

## WeCR10-Special Session: Shared Control

Haptic Steering Direction Guidance for Pedestrian-Vehicle Collision Avoidance .....	3327
<i>Makoto Itoh, Hiroto Tanaka, Toshiyuki Inagaki</i>	
Visual Surveillance for Human-Robot Interaction .....	3333
<i>Ester Martinez-Martin, Angel P. del Pobil</i>	
Online Modulation of the Level of Assistance in Shared Control Systems .....	3339
<i>Tom Carlson, Robert Leeb, Ricardo Chavarriaga, Jose del R. Millan</i>	



Real-time Prediction of Fast and Slow Delivery of Mental Commands in a Motor Imagery BCI: An Entropy-based Approach .....	3345
<i>Sareh Saeedi, Ricardo Chavarriaga, Michael C. Gastpar, Jose del R. Millan</i>	

The Importance of Including Knowledge of Neuromuscular Behaviour in Haptic Shared Control .....	3350
<i>David A. Abbink, Diane Cleij, Mark Mulder, Marinus M. van Paassen</i>	

### **WeCR11-Session: 3D Visualisation and Processing**

Cross-Selection Kernel Regression for Super-resolution Fusion of Complementary Panoramic Images ...	3356
<i>Lidong Chen, Anup Basu, Maojun Zhang, Wei Wang</i>	

3-D Reconstruction Using the Kinect Sensor and Its Application to a Visualization System .....	3361
<i>Yong-Wan Lim, Hyuk-Zae Lee, Na-Eun Yang, Rae-Hong Park</i>	

A General Optimal Pixel Aspect Ratio Model for Stereo-based 3D Reconstruction and Visualization ..	3367
<i>Hossein Azari, Irene Cheng, Anup Basu</i>	

Coded Aperture Techniques for Catadioptric Omni-directional Image Defocus Deblurring .....	3373
<i>Yang Peng, Yu Liu, Yongle Li, Maojun Zhang</i>	

HW/SW Co-design of an Embedded Omni-imaging System .....	3378
<i>Zhihui Xiong, Irene Cheng, Maojun Zhang, Anup Basu</i>	

A Body Dimensions Estimation Method of Subject from a few Measurement Items using KINECT ....	3384
<i>Ippej Samejima, Keitarou Maki, Satoshi Kagami, Makiko Kouchi, Hiroshi Mizoguchi</i>	

### **Author Index**

Author Index