23rd International Symposium on Computer and Information Sciences

(ISCIS 2008)

Istanbul, Turkey
27 – 29 October 2008

IEEE

IEEE Catalog Number: CFP0867C-PRT
ISBN: 978-1-4244-2880-9

TABLE OF CONTENTS

System Virtualization Method for RFID Tag Infrastructure Network 1
S. Kuribayashi, K. Hatakeyama

Building Detection from Aerial Images Using Invariant Color Features and Shadow Information 6
B. Sirmacek, C. Unsalan

Evaluation of Splitting Methods in Top-Down OBB-Tree Construction 11
E.D. Diktas, A.V. Sahiner

An Efficient Heuristic for Placement, Scheduling and Routing in Wireless Sensor Networks 17
Y.B. Turkogullan, N. Aras, K. Altinel, C. Ersoy

(2,2)-Secret Sharing Scheme with Improved Share Randomness 23
M. Ultas, R. Yazici, V.V. Nabiyev, G. Ulutas

Novel Constrained-Path Computation Algorithm for Failure Recovery and CAC in GMPLS Optical Networks 28
T. Eido, A. Mribah, T. Atmaca

Web Image Annotation Using Word Co-occurrence and Association Analysis 34
Y. Huang, H. Liao

Subspace Representation of Registration and Reconstruction in Multi-Frame Super-Resolution 38
A. Akyol, M. Gokmen

Multiresolution Techniques for Rain Rendering in Virtual Environments 44
A. Puig-Centelles, O. Ripolles, M. Chover

Optimal Discretization for High-Entropy Graphical Passwords 48
K. Bicakci

Perspectives of Auto-Correcting Lens Distortions in Mosaic-Based Underwater Navigation 54
A. Elibol, B. Moller, R. Garcia

SIFT Based Geometric Distortion Correction Method 60
E. Yavuz, Z. Telatar

Quality-of-Service-Aware Multicast Routing in Heterogeneous Networks with Ad Hoc Extensions 64
Kaan Bur, Cem Ersoy

A New Approach for Threat Evaluation and Weapon Assignment Problem, Hybrid Learning with Multi-Agent Coordination 70
M. Azak, A.E. Bayrak

A New Way of Calculating the Recovery Line through Eliminating Useless Checkpoints in Distributed Systems 76
S. Pourmahmoud, S. Asbaghi, A.T. Haghighat

Semantic Cross-Lingual Information Retrieval 80
S. Pourmahmoud, M. Shamsfard

Matchbook: A Web Based Recommendation System for Matchmaking 84
G. Ozbal, H. Karaman

Pattern Recognition in Cognitive Communication 90
O. Orcay, B. Ustundag

Evolving Aggregation Behavior for Robot Swarms: A Cost Analysis for Distinct Fitness Functions 96
C. Yalcin

Combining Adaptive Tests 100
G. Jourdan, H. Ural, H. Yenigun

Palmprint Recognition Using Kernel PCA of Gabor Features 106
M. Ekinci, M. Aykut

Feature Selection for Multi-SVM Classifiers in Facial Expression Classification 112
T. Gunes, E. Polat

Traffic Sign Recognition Using Scale Invariant Feature Transform and Color Classification 117
M.C. Kas, M. Gokmen, S. Etaner-Uyar

A Novel Approach About Cohesion Measurement for Classes 123
O. Kurubas, N. Duru

A Stability Approach to Improve MANET-internet Connection 129
F.D. Trujillo, A. Trivino, E. Casilari, A. Diaz-Estrella, A.J. Yuste

Image Equalization Based on Singular Value Decomposition 135
H. Demirel, G. Anbarjafari, M.N. Sabet Jahromi

Iris Recognition System Using Combined Histogram Statistics 140
H. Demirel, G. Anbarjafari

Optimization of Self-Organized Flocking of a Robot Swarm via Evolutionary Strategies 144
H. Celikkanat

The Cost-Constrained Web Replica Placement Design in Computer Networks- An Approximate Approach 148
M. Markowski, A. Kasprzak

Image Annotation by Semi-Supervised Clustering Constrained by SIFT Orientation Information 152
A. Sayar, F.T. Yarman-Vural

HANOLISTIC: A Hierarchical Automatic Image Annotation System Using Holistic Approach 156
O. Oztimur, F.T. Yarman Vural

A Simple and Improvable Method for Face Region Extraction 162
S. Aslan, Y. Uzer, O. Isik, M. Altun, M. Cinsdikici

PCA-Based Face Recognition from Video Using Super-Resolution 166
M. Al-Azzeh, A. Eleyan, H. Demirel

Identification of Coreferential Chains in Video Texts for Semantic Annotation of News Videos 170
D. Kucuk, A. Yazici

A Heuristic Approach to Military Transition Problem 176
F. Ucan, D.T. Altilar

Time Synchronization Algorithms Based on Timing-sync Protocol in Wireless Sensor Networks 180
A.B. Kulakli, K. Erciyes

Efficient Integer Programming Formulations for Optimum Sink Location and Routing in Wireless Sensor Networks 185
E. Guney, K. Altinel, N. Aras, C. Ersoy

Integrating Agents into Data-Centric Naval Combat Management Systems 191
C. Eryigit, S. Uyar

PIRS: An Information Retrieval System Based on the Vector Space Model 195
A. Karshenas, K. Dimililer

Next Generation Filtering: Offline Filtering Enhanced Proxy Architecture for Web Content Filtering 199
E. Akbas

A New Steganography Method Using Image Layers 203
O. Kurtuldu, N. Arica

Energy-Aware Dynamic Server Selection and Task Allocation 207
A. Bokar, M. Bozyigit, C. Sener

Generalized ID-Based Blind Signatures From Bilinear Pairings 213
S. Kalkan, K. Kaya, A.A. Selcuk

A Control Plane for Prioritized Real-Time Communications in Wireless Token Ring Networks 219
N. Yigitbasi, F. Buzluca

Person Name Extraction From Turkish Financial News Text Using Local Grammar-Based Approach 225
O. Bayraktar, T.T. Temizel

3D Facial Expression Recognition with Geometrically Localized Facial Features 229
H. Soyel, H. Demirel

Stroke Matching for Off-line Signature Verification Based on Bounding Rectangles 233
B. Kovari, G. Kiss, I. Albert

An Evaluation of Existing and New Feature Selection Metrics in Text Categorization 238
S. Tasci, T. Gungor

ComHRP: A Hierarchical Routing Protocol in Dynamic Sensor Networks 244
H. Kwon, H. Kwak, G. Park, J. Kim

Fast Video Vector Quantization 247
M. Yakut, N. Reisoglu

Building an Ontology for Flexible Power Quality Querying 251
D. Kucuk, O. Salor, T. Inan, I. Cadirci

An Evaluation of Divide-and-Combine Strategies for Image Categorization by Multi-class 257
C. Demirkesen, H. Cherifi

Improving Face Recognition from Videos with Preprocessed Representative Faces 263
I.S. Topkaya, N.G. Bayazit

A Hierarchical Architecture to Implement a Synchronizer in Wireless Sensor Networks 267
D. Ozsoyeller, K. Erciyes

Target Classification with Simple Infrared Sensors Using Artificial Neural Networks 273
T. Aytac, B. Barshan

Towards a New Summarization Approach for Search Engine Results: An Application for Turkish 279
F.C. Pembe, T. Gungor

Correspondenceless Pose Estimation from a Single 2D Image Using Classical Mechanics 285
H.F. Ugurdag, S. Goren, F. Canbay

Discrete Evolutionary Transform Based Robust Image Watermarking.....291
M. Ozturk, Y. Cekic, A. Akan

An Analytical Model of Inter-Node Communication Towards Performance Prediction of Multi-node Systems.....296
S. Sasaki, A. Tanaka

A High-precision Template Localization Algorithm Using SIFT Keypoints.....302
Y. Yang, Y. Song, M.A. Shaikh, J. Wang

Segmentation of Coronary Vessel Structures in X-ray Angiogram Images by Using Spatial Pattern Matching Method.....308
C. Kose, C. Ikibas

Accurate and Robust Image Registration Based on Radial Basis Neural Networks.....314
H. Sarnel, Y. Senol, D. Sagirlibas

A Generic System for the Classification of Marble Tiles Using Gabor Filters.....319
I. Ar, Y.S. Akgul

Face Recognition by Combining Gabor Wavelets and Nearest Neighbor Discriminant Analysis.....325
K. Kirtac, O. Dolu, M. Gokmen

Design of an Adaptive Genetic Algorithm for Maximizing and Minimizing Throughput in a Computer Network.....330
J.A. Fernandez Prieto, J.R. Velasco Perez

Hydrodynamic Based Hybrid Dynamic Load Balancing.....334
O. Destanoglu, F.E. Sevilgen

Combined Color and Texture Tracking for Video Post-Editing.....340
I.B. Fidaner, L. Akarun

Distributed Intrusion Detection Using Mobile Agents against DDoS Attacks.....346
U. Akyazi, A.S.E. Uyar

Shot Boundary Detection in H.264.....352
S. Kustutan, A. Kantarci

Smart Dynamic Memory Allocator for Embedded Systems.....358
M. Ramakrishna, J. Kim, W. Lee, Y. Chung

Experiments of Running Parallel Auctions in an Agent-Based Auction Service.....364
A. Dobriceanu, A. Badica, L. Biscu, C. Badica

From Simple to Large Scale Matching: A Hybrid Approach.....370
S. Sellami, A. Benharkat, Y. Amghar

TurKeyX: Turkish Keyphrase Extractor.....374
F. Kalaycilar, I. Cicekli

Automatic Age Classification with LBP.....378
A. Gunay, V.V. Nabiyev

Analysis of Delay Factors for Voice over WiMAX.....382
A. Safak, B. Preveze

An Approach to Improve Information Sharing in a Large Information System.....388
S. Berisha, B. Rumpler, A. Herbuel

Investigating Software Design Pattern Behavior in Multiprocessor Systems: A Case Study on Observer.....393
T. Ovatman, F. Buzluca

Cognitive Aspects of Error Finding on a Simulation Conceptual Modeling Notation 397
O. Kilic, B. Say, O. Demirors

Optimization of Power Consumption Using Trespassers' Favorite Path and Variable Sensing Range Integrated Sleep Schedule in Surveillance Wireless Sensor Networks 403
C. Komar, C. Ersoy

Credit Risk Analysis Using Hidden Markov Model 408
H.T. Oguz, F.S. Gurgen

Clustering Poses of Motion Capture Data Using Limb Centroids 413
K. Balci, L. Akarun

Prior Information Based Segmentation: A 3D Level Set Surface Matching Approach 419
A.B. Oktay, Y.S. Akgul

Metadata Extraction from Text in Soccer Domain 425
Z.O. Gokturk, N.K. Cicekli, I. Cicekli

Ontological Video Annotation and Querying System for Soccer Games 431
O. Alan, S. Akpinar, O. Sabuncu, N. Cicekli, F. Alpaslan

Predicting Uniaxial Compressive Strengths of Brecciated Rock Specimens Using Neural Networks and Different Learning Models 437
M.A. Selver, E. Ardall, O. Onal, O. Akay

Focused Crawler for Finding Professional Events Based on User Interests 441
S.A. Ozel, E. Sarac

Comparative Study of Cognitive Complexity Measures 445
S. Misra, I. Akman

Distributed Key Selection for Group Applications in Ad Hoc Networks 449
E. Obut, O. Ozkasap

Scale and Pose Invariant Real-Time Face Detection and Tracking 455
M.S. Bayhan, M. Gokmen

Virtualization and Allocation of Network Service Resources Using Graph Embedding 461
C. Cadere, D. Barth, S. Vial

Robotic Wireless Network Connection of Civilians for Emergency Response Operations 467
G. Loukas, S. Timotheou, E. Gelenbe

Combined Effects of Mobility, Congestion and Contention on Network Performance for IEEE 802.15.4 Based Networks 473
R. Sokullu, C. Donertas

Semblance Based Disseminated Software Watermarking Algorithm 478
Z. Pervez, N.U. Qayyum, Y. Mahmood, H.F. Ahmad

An Authentication Protocol for Hierarchy-Based Wireless Sensor Networks 482
K. Kim, Y. Zhang, W. Yang, M. Park

The Effects of Terrain Types on 3D Coverage under Heterogeneous Deployment Strategies in Wireless Sensor Networks 488
S. Oktug, A. Khalilov, H. Tezcan

Facial Feature Tracking and Expression Recognition for Sign Language 494
I. Ari, A. Uyar, L. Akarun

Fast Correlation Based Filter (FCBF) with a Differenct Search Strategy 500
B. Senliol, G. Gulgezen, L. Yu, Z. Cataltepe

Extracting Vehicle Density From Background Estimation Using Kalman Filter 504
M. Balcilar, A.C. Sonmez

Fast Non-Linear Video Synopsis 509
A. Yildiz, A. Ozgur, Y.S. Akgul

Modeling of Inhomogeneous Intensity Distribution of X-Ray Source in Radiographic Images 515
A. Yuksel, Z. Dokur, M. Korurek, T. Olmez

Considering Spatio-Temporal Outliers in Function Approximation 520
B. Anbaroglu

A Spatially Controlled Histogram Equalization for Image Enhancement 526
M. Abdullah-Al-Wadud, H. Kabir, O. Chae

Short Time Traffic Speed Prediction Using Data from a Number of Different Sensor Locations 532
U. Yildirum, Z. Cataltepe

Several Facilities of Class Diagram Generation from Two-Hemisphere Model in the Framework of MDA 538
O. Nikiforova, N. Pavlova, J. Grigorjevs

Impact of Peer-to-Peer Communication on Real-time Performance of File Replication Algorithms 544
M.M. Atanak, A. Dogan

On-Demand Server Synchronization Algorithms for Session Guarantees 550
L. Piatkowski, C. Sobaniec, G. Sobanski

Priority Disciplines- A Diffusion Approach 554
T.C.I. Pan

Space Efficient Caching of Query Results in Search Engines 558
R. Ozcan, I.S. Altingovde, O. Ulusoy

Contour Compression Using Trapezoid Method 564
A. Ukasha, E. Saffor, M.A.S. Hassan

Specification and Verification of Agent Interactions in Matchmaking Processes Using FSP and FLTL 570
A. Badica, C. Badica

Availability Analysis and Connection Provisioning in Overlapping Shared Segment Protection for Optical Networks 576
B. Kantarci, H.T. Mouftah, S. Oktug

Segmentation of S1-S2 Sounds in Phonocardiogram Records Using Wavelet Energies 582
M. Yamacli, Z. Dokur, T. Olmez

Goal Oriented Edge Detection 588
B. Kurt, M. Gokmen

Connection Provisioning Constrained to Fault Localization in All-optical Networks 593
M. Khair, B. Kantarci, H.T. Mouftah

Gene Ontology Prediction Using Compression Based Distances and Alignment Scores on Both Amino Acid Sequence and Secondary Structures 599
A. Filiz, Z. Cataltepe

Image Frame Fusion Using 3D Anisotropic Diffusion 605
F. Kahraman, C.D. Mendi, M. Gokmen

Ad-hoc Connections of Miscellaneous Sensors in a CCTV System.....611
K. Kraus, R. Reda

Efficient Secure Storage of Privacy Enhanced Video Surveillance Data in Intelligent Video Surveillance Systems.....615
F. Matusek, R. Reda

Co-Training with Adaptive Bayesian Classifier Combination.....620
Y. Yaslan, Z. Cataltepe

Multi Sensor Technologies Augmenting Video Surveillance: Security and Data Fusion Aspects.....624
S. Sutor, R. Reda

Author Index