2009 24th International Symposium on Computer and Information Sciences

(ISCIS 2009)

Guzelyurt, Cyprus
14-16 September 2009

IEEE Catalog Number: CFP0967C-PRT
ISBN: 978-1-4244-5021-3

TABLE OF CONTENTS

Single Stripe Projection based Range Scanning of Shiny Objects Under Ambient Light 1
Rifat Benveniste, Cem Ünsalan

Video Shot Boundary Detection by Graph-Theoretic Dominant Sets Approach 7
Emrah Asan, A. Aydin Alatan

Image Annotation With Semi-Supervised Clustering 12
Ahmet Sayar, Fatos T. Yarman Vural

An Image-Processing Based Automated Bacteria Colony Counter 18
Hüseyin Ates, Ömer Nezih Gerek

Template-Based Level Set Segmentation Using Anatomical Information Application to Quadriceps Muscles in MR Images from the Osteoarthritis Initiative 24
Jeffrey W. Prescott, Mark S. Swanson, Kimerly Powell, Metin N. Gurcan, Furqan Haq, Thomas M. Best, Rebecca D. Jackson

Interactive MPEG-4 Videos: An Impress Extension for MPEG-4 Conversion and a Streaming Architecture for E-Learning 29
Roberto Iannone, Bruno Carpentieri, Domenico Nunziata

Feature Selection for Person-Independent 3D Facial Expression Recognition Using NSGA-II 35
Umut Tekgüç, Hamit Soyel, Hasan Demirel

A New Histogram Modification Based Robust Image Data Hiding Technique 39
Yildiray Yalman, Ismail Erturk

Feature Extraction and Discriminating Feature Selection for 3D Face Recognition 44
Göksel Günlü, Hasan S. Bilge

Recognizing Faces in News Photographs on the Web 50
Hilal Zitouni, Muhammed Fatih Bulut, Pinar Duygulu

Dynamic Feature Weights with Relevance Feedback in Content-Based Image Retrieval 56
Esin Guldogan, Moncef Gabbouj

Joint Utilization of Appearance and Geometry for Determining Correspondences 60
Medeni Soysal, A. Aydin Alatan, Talha Karadeniz

A New Method for Computer Generated Holography of 3D Objects 66
Muharrem Bayraktar, Meric Özcan

Shape Detection in Images Exploiting Sparsity 70
Ali Cafer Gurbuz

Halftoning Soft Cores for Low-Cost Digital Displays 76
Muhammet Erkoç, Arda Yurdakul

Plant Image Retrieval Using Color and Texture Features 82
Hanife Kebapci, Berrin Yanikoglu, Gozde Unal

Utilization of Dimensionality Reduction in Stacked Generalization Architecture 88
Cüneyt Mertayak

Improved Face Recognition System Using Probability Distribution Functions Extracted from Wavelet Subbands 94
Hasan Demirel, Gholamreza Anbarjafar

Ensembled Gabor Nearest Neighbor Classifier for Face Recognition 99
Onur Dolu, Kadir Kirtaç, Muhittin Gökmen

Text Classification in the Turkish Marketing Domain for Context Sensitive Ad Distribution 105
Melih Engin, Tolga Can

A Microformat Based Approach for Crawling and Locating Services in the eGovernment Domain 111
Luis Álvarez Sabucedo, Luis Anido Rifón

Track ME! A Web Based Location Tracking and Analysis System for Smart Phone Users 117
Murat Ali Bayir, Murat Demirbas, Ahmet Cosar

Efficient k-Word Proximity Search 123
Chirag Gupta, Gultekin Ozsoyoglu, Z. Meral Ozsoyoglu

A Taxonomy Based Semantic Similarity of Documents Using the Cosine Measure 129
Ainura Madylova, Şule Gündüz Ögüdücü

Query Smearing: Improving Classification Accuracy and Coverage of Search Results Using Logs 135
B. Uygar Oztekin, Andy Chiu

Exploring Queriability of Encrypted and Compressed XML Data 141
Islam Elgedawy, Biplav Srivastava, Sumit Mittal

An Evolutionary Genetic Algorithm for Optimization of Distributed Database Queries 147
Ender Sevinç, Ahmet Cosar
Employing Named Entities for Semantic Retrieval of News Videos in Turkish 153
Dilek Küçük, Adnan Yazici
Toward a Semantic Approach to Improve Data Exchange in an Industrial Information System 159
Suela Berisha, Béatrice Rumpler, Alain Herbuel
PopulusLog: People Information Database 165
Ali Cakmak, Mustafa Kirac, Gultekin Ozsoyoglu
MotifHider: A Knowledge Hiding Approach to Sequence Masking 171
Osman Abul
NVR-BIP: Nuclear Vector Replacement Using Binary Integer Programming for NMR Structure-Based Assignments 177
Mehmet Serkan Apaydin, Bülent Çatay, Nicholas Patrick, Bruce R. Donald
Extracting Similar Sub-Graphs Across PPI Networks 183
Valeria Fionda, Luigi Palopoli, Simona Panni, Simona E. Rombo
Prediction of Protein-Protein Interaction Relevance of Articles Using References 189
Çağatay Çalli
Calculating the VC-Dimension of Decision Trees 193
Özlem Aslan, Olcay Taner Yildiz, Ethem Alpaydin
Mining Quantitative Class-Association Rules for Software Size Estimation 199
María N. Moreno, Joel P. Lucas, Saddys Segrera, Vivian F. López
Word Sense Disambiguation for Turkish 205
Ezgi Mert, Gökhan Dalkiliç
Dimensional Fact Model Extension Via Predicate Calculus 211
Carlo Dell'Aquila, Francesco Di Tria, Ezio Lefons, Filippo Tangorra
Set-Based Approach in Mining Sequential Patterns 217
Shang Gao, Reda Alhajj, Jon Rokne, Jiwen Guan
Generic Text Summarization for Turkish 223
Celal Cigir, Mücahid Kutlu, Ilyas Cicekli
LDA-Based Keyword Selection in Text Categorization 229
Serafettin Tasci, Tunga Güngör
Using Semantic Information for Web Usage Mining Based Recommendation 235
Suleyman Salin, Pinar Senkul
Joint Visual Attention Modeling for Naturally Interacting Robotic Agents 241
Zeynep Yücel, Albert Ali Salah, Çetin Meriçli, Tekin Meriçli
Multi-Relational Concept Discovery with Aggregation 247
Yusuf Kavurucu, Pinar Senkul, I. Hakki Toroslu
Unsupervised Learning of Affordance Relations on a Humanoid Robot 253
Bariş Akgün, Nilgün Dağ, Tahir Bilal, İlkay Atil, Erol Şahin
Role of Preferred Terminology in the Classification of Medical Reports 259
Ira Goldstein, Özlem Uzuner
A MLP Based PD Estimation Model for SME Credits 264
Gülnur Derelioglu, Fikret Gürgen
Turkish Keyphrase Extraction Using Multi-Criterion Ranking 268
Bahadir Özdemir, Ilyas Cicekli
Multi-Robot Pursuit with Visibility Constraints 273
Esra Kadioglu Urtis, Nikolaos Papanikolopoulos
Improvement on Corpus-Based Word Similarity Using Vector Space Models 279
Yunus Emre Esin, Özgür Alan, Ferda Nur Alpaslan
Feature Selection for Collective Classification 285
Baris Senliol, Atakan Aral, Zehra Cataltepe
Reducing Power Consumption in Wired Networks 291
Erol Gelenbe, Simone Silvestri
Channel Assignment Problem in Cellular Networks: A Reactive Tabu Search Approach 297
Didem Gözüpek, Gaye Genc, Cem Ersoy
Preimages of Hash Functions Through Rainbow Tables 303
Orhun Kara, Adem Atalay
MIPS Extension for a TCAM Based Parallel Architecture for Fast IP Lookup 309
Oguzhan Erdem, Cüneyt F. Bazlamaçci
Performance Study of a Wireless Mobile Ad Hoc Network with Orientation-Dependent Inter-Node Communication Links 315
Alexander Kostin, Gurcu Oz, Huseyin Haci

A Path-Quality-Aware Peer-to-Peer File Sharing Protocol for Mobile Ad-hoc Networks: Wi-Share 321
Efe Karasabun, Doğus Ertemür, Seyhun Sariyildizy, Metin Tekkalmaz, Ibrahim Korpeoglu
Effect of Wave Height to Connectivity and Coverage in Sea Surface Wireless Sensor Networks 327
Tevfik Yapicioglu, Sema Oktug
Ant Colony Optimization for Survivable Virtual Topology Mapping in Optical WDM Networks 333
Elif Kaldirim, Fatma Corut Ergin, Şima Uyar, Ayşegül Yayimli
A Secure Key Establishment Protocol for ZigBee Wireless Sensor Networks 339
Ender Yüksel, Hanne Riis Nielson, Flemming Nielson
Cross Layer Implementation of Key Establishment Protocols in Wireless Sensor Networks 345
Özgür Saglam, Mehmet E. Dalkiliç
Channel Import Efficiency of the DonorList Algorithm 351
Tamer Tulgar, Mohammed Salamah
Performance Evaluation of Cluster-Based Target Tracking Protocols for Wireless Sensor Networks 356
Aysegul Alaybeyoglu, Orhan Dagdeviren, Kayhan Erciyes, Aylin Kantarci
PVC: A Novel Personal Virtual Cluster Based on Multi-core Platform 362
Cong Xu, Yuebin Bai, Cheng Luo, Xiang Ni
SCALAR Data Replication Performance in Mobile Ad hoc Applications 368
Emre Atsan, Deniz Altinbuken, Oznur Ozkasap
A Resilient Key Predistribution Scheme for Multi-Phase Wireless Sensor Networks 374
Murat Ergun, Albert Levi, Erkay Savas
Forward Kinematics of the 3RPR Planar Parallel Manipulators Using Real Coded Genetic Algorithms 380
Luc Rolland, Rohitash Chandra
Active Humanoid Vision and Object Classification 386
Aleš Ude
Does Attention Capacity Correlate with the Effects of Chord Function on Phoneme Monitoring? 391
Nart Bedin Atalay, Mine Misirlisoy
Towards Linking Affordances with Mirror/Canonical Neurons 396
Erol Şahin, Selim T. Erdoğan
Improving Balance Regulation in Visuo-Motor Control for Humanoid Robots 404
Blaž Hajdinjak, Jan Babic, Erhan Oztop
Using 3D Contours and Their Relations for Cognitive Vision and Robotics 408
Emre Başeski, Leon Bodenhagen, Nicolas Pugeault, Sinan Kalkan, Justus Piater, Norbert Krüger
Predicting Future Object States Using Learned Affordances 414
Emre Ugur, Erol Şahin, Erhan Oztop
Ensemble Detection: A New Architecture for MultiSensor Data Fusion with Ensemble Learning for Object Detection 419
Mete Özay, Okan Akalin, Fatos T. Yarman-Vural
Distance Computation Using OBB-Trees 425
Engin Deniz Diktas, Ali Vahit Sahiner
A Buffer Zone Computation Algorithm for Corridor Rendering in GIS 431
Emre Er, Ismail Kilinç, Görkem Gezici, Buyurman Baykal
Generating Motion Graphs From Clusters of Individual Poses 435
Koray Balci, Lale Akarun
Editing Heightfield Using History Management and 3D Widgets 441
M. Adil Yalcin, Tolga K. Capin
Exploiting Scientific Workflows for Large-Scale Gene Expression Data Analysis 447
Alessandro De Stasio, Marcus Ertelt, Wolfgang Kemmner, Ulf Leser, Michele Ceccarelli
A Web-Based Data Source for Metabolomics 453
Ali Cakmak, Arun Dsouza, Richard Hanson, Gultekin Ozsoyoglu, Meral Ozsoyoglu
Semantic Argument Frequency-Based Multi-Document Summarization 459
Cem Aksoy, Ahmet Bugdayci, Tunay Gur, Ibrahim Uysal, Fazli Can
Investigating the Effect of Data Partitioning for GMM Supervector Based Speaker Verification 464
Erinc¸ Dikici, Murat Saraçlar
A Novel Noise Robust and Low Bit Rate Speech Coding Algorithm 470
Umit Guz, Hakan Gürkan, B. Siddik Yarman
HMM-Based Sliding Video Text Recognition for Turkish Broadcast News 474
Temuçin Som, Doğan Can, Murat Saraçlar
On Educating Globally Distributed Software Development – A Case Study 479
Juho Mäkiö, Stefanie Betz
Towards An Interdisciplinary Methodology for Service-Oriented System Engineering 485
Veli Bicer, Steffen Lampartery, York Surezx, Ali H. Dogru

Integrating Business Process and User Interface Models Using a Model-Driven Approach 491
Renata Dividino, Veli Bicer, Konrad Voigt, Jorge Cardoso
Domain Specific Phase by Phase Effort Estimation in Software Projects 497
Yigit Kultur, Ekrem Kocaguneli, Ayse B. Bener
Making Functional Similarity Count for More Reliable Effort Prediction Models 503
Ozden Ozcan Top, Onur Demirors, Oktay Turetken
Error Density Metrics for Business Process Model 512
Gokcen Tonbul, Sanjay Misra
A Cognitive Requirement Specification Model 517
Ferid Cafer, Sanjay Misra
Negotiation Based Advance Reservation Priority Grid Scheduler with a Penal Clause for Execution Failures 521
Ravin Ahuja, Asok De, Goldie Gabrani
The Effect of Granularity Level on Software Defect Prediction 529
Gul Calikli, Ayse Tosun, Ayse Bener, Melih Celik
Performance Evaluation of Disk Scheduling Algorithms in the Presence of Bad Sectors 535
Tarek Helmy
An Approach to State Space Reduction for Systems with Dynamic Process Creation 541
Hanna Klaudel, Maciej Koutny, Elisabeth Pelz, Franck Pommereau
Using a SAT Solver to Generate Checking Sequences 547
Guy-Vincent Jourdan, Hasan Ural, Hüsnü Yenigün, Dong Zhu
Testing Requirements for Mobile Applications 553
Valéria Lelli Leitão Dantas, Fabiana Gomes Marinho, Aline Luiza Da Costa, Rossana M. C. Andrade
Consistency Checking for Automatic Software Generation 559
Aytekin Vargun
An Outlier Detection Algorithm Based on Object-Oriented Metrics Thresholds 565
Oral Alan, Cagatay Catal
Active Authentication by Mouse Movements 569
Yigitcan Aksari, Harun Artuner
Movies Genres Classifier Using Neural Network 573
Sanjay K. Jain, R. S. Jadon
Stereo Line Matching Based on the Combination of Geometric and Intensity Data 579
Dong-Min Woo, Dong-Chul Park
Polynomial Approach in a Secret Image Sharing Using Quadratic Residue 584
Guzin Ulutas, Vasif V. Nabiyev, Mustafa Ulutas
Novel Traffic Lights Signaling Technique Based on Lane Occupancy Rates 590
Nima Seifnaraghi, Saameh G. Ebrahimi, Erhan A. Ince
A Novel Approach for Off-Line Arabic Writer Identification Based on Stroke Feature Combination 595
Mohamed Nidhal Abdi, Maher Khemakhem, Hanene Ben-Abdallah
Adaptive and Fixed Eigenspace Methods with a Novel Fitness Measure for Video based Face Recognition 599
Alaa Eleyan, Hüseyin Özkaramanli, Hasan Demirel
Recognizing Partially Occluded Irises Using Subpattern-Based Approaches 604
Meryem Erbilek, Önsen Toygar
Co-Occurrence Based Statistical Approach for Face Recognition 609
Alaa Eleyan, Hasan Demirel
Automatic Generation for Web Services Conversations Adapters 614
Islam Elgedawy
Investigation of Mashups for Managers 620
Necmettin Ozkan, Wardah Zainal Abidin
XLambda: A Functional Programming Language with XML Syntax 626
Ruhsan Onder, Zeki Bayram
Turkish – English Cross Language Information Retrieval Using LSI 632
Erbug Çelebi, Baturman Sen, Burak Günel
Stableness In Large Join Query Optimization 637
Tarcizio Alexandre Bini, Adriano Lange, Marcos Sfair Sunye, Fabiano Silva
Prediction of Protein-Protein Interactions in Yeast Using SVMs with Genomics/Proteomics Information and Feature Selection 643
J. M. Urquiza, I. Rojas, H. Pomares, L. J. Herrera, G. Rubio, J. P. Florido
Bootstrap Bayesian Analysis with Applications to Gene-Environment Interaction 649
Adina Crainiceanu, Kung-Yee Liang, Ciprian M. Crainiceanu

Accurately Clustering Moving Objects with Adaptive History Filtering 655
James Rosswog, Kanad Ghose
Stylistic Document Retrieval for Turkish 661
Daniya Zamalieva, Firat Kalaycilar, Asli Kale, Selen Pehlivan, Fazli Can
Frequent Itemsets Hiding: A Performance Evaluation Framework 666
Osman Abul, Harun Gökçe, Yağmur Şengez
Comparison of Balancing Techniques for Multimedia IR Over Imbalanced Datasets 672
Pablo Bermejo, Frank Hopfgartnery, José A. Gámez, José M. Puerta Callejón, Joemon M. Josey
Construction of Examination Timetables Based on Ordering Heuristics 678
Syariza Abdul Rahman, Andrzej Bargiela, Edmund K. Burke, Ender Özcan, Barry McCollum
The Romberg-Like Parallel Numerical Integration on a Cluster System 684
Ali Yazici
Joint Routing and Multi Level Data Compression for Lifetime Optimization in Wireless Sensor Networks 690
Bulent Tavli, Onur Ceylan
A Dynamic Spectrum Decision Scheme for Heterogeneous Cognitive Radio Networks 695
Metin Kaplan, Feza Buzluca
A Token Based Control Channel Protocol for Cognitive Radio Networks 701
Ceren Mazici, Feza Buzluca
A Robust Localization Framework to Handle Noisy Measurements in Wireless Sensor Networks 707
Cesim Erten, Ömer Karataş
Replacement Policies for Super-Peer in Unstructured P2P Network 713
Soohong Min, Joanne Holliday
Real-Time Cutting Simulation Based on Stiffness-Warped FEM 719
Omer Cakir, Rifat Yazici, Oguzhan Cakir
A Display Processing Software Application Framework for Mission Computer Systems 723
İsmail Kilinç, Görkem Gezici, Emre Er, Buyurman Baykal
Merging Model Driven and Ontology Driven System Development Approaches Pervasive Computing Perspective 728
Ahmet Soylu, Patrick De Causmaecker
Software Product Line Development: A Review on Practical Issues and Challenges 734
Özlem Dura, Asim Egemen Yilmaz
Using Continuous Integration and Automated Test Techniques for a Robust C4ISR System 741
H. Mehmet Yüksel, Eray Tüzün, Erdogan Gelirli, Emrah Biyikli, Buyurman Baykal

Author Index