

2009 Second International Conference on Machine Vision

ICMV 2009

Table of Contents

Preface	xi
Organizing Committee	xii
Reviewers	xiii

Session 1

Survey of Stable Clustering for Mobile Ad Hoc Networks	3
<i>Abolfazle Akbari, Mahdi Soruri, and Seyed Vahid Jalali</i>	
Binarization of Documents with Complex Backgrounds	8
<i>A. Venkata Srinivasa Rao, Tinnathi Sreenivasu, Nenkkanti Venkata Rao, A.S.C.S. Sastry, L. Pratap Reddy, and T.S. Krishna Prabhu</i>	
Improved Kernel Common Vector Method for Face Recognition	13
<i>C. Lakshmi, M. Ponnaivaikko, and M. Sundararajan</i>	
Compressing of Fingerprint Images by Means of Fractals Feature	18
<i>Mahdi Jampour, Hamid Shojaei, Maryam Ashourzadeh, and Mahdi Yaghoobi</i>	
Adaptive Binarization of Ancient Documents	22
<i>A. Venkata Srinivasa Rao, Golla Sunil, Nenkkanti Venkata Rao, T.S. Krishna Prabhu, L. Pratap Reddy, and A.S.C.S. Sastry</i>	
Fingerprint Verification Using the Texture of Fingerprint Image	27
<i>Mohammed S. Khalil, Dzulkifli Muhammad, and Qais AL-Nuzaili</i>	
A Robust Neural System for Objectionable Image Recognition	32
<i>Samy Sadek, Ayoub Al-Hamadi, Bernd Michaelis, and Usama Sayed</i>	
Multibiometrics Belief Fusion	37
<i>Dakshina Ranjan Kisku, Jamuna Kanta Sing, and Phalguni Gupta</i>	
Image Registration Using Ant Colony and Particle Swarm Hybrid Algorithm Based on Wavelet Transform	41
<i>Aiye Shi, Fengchen Huang, Yang Pan, and Lizhong Xu</i>	

Session 2

Multimodality Image Registration Utilizing Ant Colony Algorithm	49
<i>Hadi Rezaei, Majid Shakeri, Sassan Azadi, and Keyvan Jaferzade</i>	
A Hybrid Particle Swarm Steepest Gradient Algorithm for Elastic Brain Image Registration	54
<i>Hadi Rezaei, Sassan Azadi, and Mina Ghorbani</i>	
A Conditional Selection of Orthogonal Legendre/Chebyshev Polynomials as a Novel Fingerprint Orientation Estimation Smoothing Method	59
<i>Ashkan Tashk, Mohammad Sadegh Helfroush, and Mohammad Javad Dehghani</i>	
Human Gait Recognition Based on Dynamic and Static Features Using Generalized Regression Neural Network	64
<i>Luv Rustagi, Lokendra Kumar, and G.N. Pillai</i>	
Hierarchical Video Data Modeling and Indexing for Virtual Scene Construction	69
<i>Huiyu Wang and Ruofeng Tong</i>	
Automatic Web News Extraction Using Blocking Tag	74
<i>Lin Ziyi, Shen Beijun, Tang Xinhuai, and Chen Delai</i>	
Estimation of Translation, Rotation and Large Scale Scaling Based on Multiple Scaling Assumptions	79
<i>Kyota Aoki</i>	
A Combined KPCA and SVM Method for Basic Emotional Expressions Recognition	84
<i>Saeid Fazli, Reza Afrouzian, and Hadi Seyedarabi</i>	
Particle Filter Based Object Tracking with Sift and Color Feature	89
<i>Saeid Fazli, Hamed Moradi Pour, and Hamed Bouzari</i>	

Session 3

A Robust Obstacle Detection Method in Highly Textured Environments Using Stereo Vision	97
<i>Saeid Fazli, Hajar Mohammadi Dehnavi, and Payman Moallem</i>	
Trade-Off between Imperceptibility and Robustness of LSB Watermarking Using SSIM Quality Metrics	101
<i>Saeid Fazli and Gholamreza Khodaverdi</i>	
Machine Vision System for Flatness Control Feedback	105
<i>Rubén Usamentiaga, Julio Molleda, Daniel F. García, and Francisco G. Bulnes</i>	
Optimizing Kernel Functions Using Transfer Learning from Unlabeled Data	111
<i>M. Ehsan Abbasnejad, Dhanesh Ramachandram, and Rajeswari Mandava</i>	
A Hybrid Scheme for Online Detection and Classification of Textural Fabric Defects	118
<i>Mina Behravan, Reza Boostani, Farshad Tajeripour, and Zohre Azimifar</i>	

Discriminative Models-Based Hand Gesture Recognition	123
<i>Mahmoud Elmezain, Ayoub Al-Hamadi, and Bernd Michaelis</i>	
Improving Hand Gesture Recognition Using 3D Combined Features	128
<i>Mahmoud Elmezain, Ayoub Al-Hamadi, and Bernd Michaelis</i>	
Semi-fragile Image Authentication Using Robust Image Hashing with Localization	133
<i>Ammar M. Hassan, Ayoub Al-Hamadi, Bernd Michaelis, Yassin M.Y. Hasan, and Mohamed A.A. Wahab</i>	
Improvement of Connectivity in Mobile Ad Hoc Networks by Adding Static Nodes Based on a Realistic Mobility Model	138
<i>Morteza Romoozi, S.M. Vahidipour, and Hamideh Babaei</i>	
Session 4	
3D Face Recognition by Surface Classification Image and PCA	145
<i>Lei Yunqi, Chen Dongjie, Yuan Meiling, Li Qingmin, and Shi Zhenxiang</i>	
New Position Detection Method Using Image Sensor and Visible Light LEDs	150
<i>Toshiya Tanaka and Shinichro Haruyama</i>	
Using Wavelet Support Vector Machine for Classification of Hyperspectral Images	154
<i>Mohammad Hossein Banki and Ali Asghar Beheshti Shirazi</i>	
Automation in Automobiles: Power Seat	158
<i>Akshay Lahiry, Samarth Chanana, and Sourabh Kanwar</i>	
Neural Based Approach for Fast Retrieval of Symbolic Images in Database	161
<i>Mojtaba Sabet, Mohamad Firouzmand, and Saeed Ayat</i>	
Design and Development of an Image Processing Based Adaptive Traffic Control System with GSM Interface	166
<i>Umar Farooq, Hafiz Muhammad Atiq, Muhammad Usman Asad, Asim Iqbal, and Zeeshan Azmat</i>	
A Machine Vision Application for Industrial Assembly Inspection	172
<i>Jiancheng Jia</i>	
Improved Principal Components Regression with Rough Set and its Application in the Modeling of Warship LCC	177
<i>Xiao-Hai Zhang, Jia-Shan Jin, and Jun-Bao Geng</i>	
Marathi Language Speech Synthesizer Using Concatenative Synthesis Strategy (Spoken in Maharashtra, India)	181
<i>S.D. Shirbahadurkar and D.S. Bormane</i>	

Session 5

Impact of Feature Selection on Support Vector Machine Using Microarray Gene Expression Data	189
<i>Choudhury Muhammad Mufassil Wahid, A.B.M. Shawkat Ali, and Kevin Tickle</i>	
SVMs Interpolation Based Edge Correction Scheme for Color Filter Array	194
<i>Baiting Zhao and Xiaofen Jia</i>	
Gabor Filter Parameters Optimization for Texture Classification Based on Genetic Algorithm	199
<i>Mehrnaz Afshang, Mohammad Sadegh Helfroush, and Azardokht Zahernia</i>	
Pedestrian Detection Fusion Method Based on Mean Shift	204
<i>Liping Yu and Wentao Yao</i>	
An Improved OIF Elman Neural Network Model with Direction Profit Factor and Its Applications	208
<i>Ming Li, Limin Wang, Yang Liu, Ying Liu, Qian Sun, and Xuming Han</i>	
Depth Estimation from Defocus Images Based on Oriented Heat-Flows	212
<i>Liu Hong, Jia Yu, Cheng Hong, and Wei Sui</i>	
Dual Watermarking in Video Using Discrete Wavelet Transform	216
<i>S.T. Gandhe, Ujwala Potdar, and K.T. Talele</i>	
Performance Enhancement of Coded Excitation in Ultrasonic B-mode Images	220
<i>Elham Behradfar, Ali Mahloojifar, and Amir E. Behradfar</i>	
An Experimental Machine Vision System for Quality Control of Industrial Colour Printer	225
<i>Mohammad Amini and Jamshid Shanbehzadeh</i>	

Session 6

Hmt-Contourlet Image Segmentation Based on Majority Vote	231
<i>Mohammad Sadegh Helfroush and Narges Taghdir</i>	
A Trainer System for Air Rifle/Pistol Shooting	236
<i>H.L.K. Silva, S.D. Uthuranga, B. Shiyamala, W.C.M. Kumarasiri, H.B Walisundara, and G.T.I. Karunarathne</i>	
Early Software Fault Prediction Using Real Time Defect Data	242
<i>Arashdeep Kaur, Parvinder S. Sandhu, and Amanpreet Singh Bra</i>	
Discussion and Analyze on Image Fusion Technology	246
<i>Tian Hui and Wang Binbin</i>	
Frame Design and Algorithm Research on A New Image Acquisition System	251
<i>Li Bo and Cheng Ping-guang</i>	
Research and Analyze about Signal Enhancement Algorithm in Image Recognition System	255
<i>Han Cuiying and Kong Juan</i>	
Compare between Several Linear Image Edge Detection Algorithm	259
<i>Song Qiang and Lingxia Liu</i>	

A New Method of Correspondence for Multiple Cameras Based on Texture Energy	264
<i>Liu Qiangqiang, Luo Xiling, and Zhang Jun</i>	

Session 7

Spur Gear Design With an S-shaped Transition Curve Application Using MATHEMATICA and CAD Tools	273
<i>Saifudin Hafiz Yahaya, Mohd Shukor Salleh, and Jamaludin Md. Ali</i>	
Application of Digital Imaging Technique in Electrical Charge Tomography System for Image Reconstruction Validation	277
<i>Mohd Daud Isa and Mohd Fua'ad Rahmat</i>	
A New Approach towards Text Filtering	282
<i>Pinky Roy, Amrit Roy, and Vineet Thirani</i>	
Mobile Robot Navigation Using Difference of Wavelet SIFT	286
<i>Jung Ilkyun, Jun Sewoong, and Kim Youngouk</i>	
Pruned Associative Classification Technique for the Medical Image Diagnosis System	293
<i>P. Rajendran and M. Madheswaran</i>	
Robust & Secure Transmission over Insecure Channel through Higher Level Bit Replacement	298
<i>Srikant Burje, Sipi Dubey, and Virendra P. Nikam</i>	
Data Processing Issues in Cloud Computing	301
<i>Ammar Khalid and Husnain Mujtaba</i>	
Solitons Interaction and their Stability Based on Nonlinear Schrödinger Equation	305
<i>Asim Shahzad and M. Zafrullah</i>	
Multi-user Interaction in Collaborative Augmented Reality for Urban Simulation	309
<i>Ajune Wanis Ismail and Mohd Shahrizal Sunar</i>	

Session 8

Effective Watermarking of Digital Audio and Image Using Matlab Technique	317
<i>Sadasivam Subbarayan and S. Karthick Ramanathan</i>	
A Review of Shadow Techniques in Augmented Reality	320
<i>Zakiah Noh and Mohd Shahrizal Sunar</i>	
Hierarchy Techniques in Self-Collision Detection for Cloth Simulation	325
<i>Nur Saadah Mohd Shapri, Abdullah Bade, and Daut Daman</i>	
Content-Based Medical Image Retrieval Using the Generic Fourier Descriptor with Brightness	330
<i>Ashok Vijay and Mahua Bhattacharya</i>	
Duplicate Record Detection for Database Cleansing	333
<i>Mariam Rehman and Vatcharapon Esichaikul</i>	

Harmonic Balance Simulation for the Nonlinear Analysis of Vibration Isolation System Using Negative Stiffness	339
<i>Mohd Asri Mohd Nor, Abdul Halim Abdullah, and Alias Mat Saman</i>	
Author Index	343