

# **Proceedings**

## **2008 Fourth International Conference on Intelligent Information Hiding and Multimedia Signal Processing**

### **IIH-MSP 2008**

15-17 August 2008 • Harbin, China



Los Alamitos, California  
Washington • Tokyo



2008 Fourth International Conference on  
Intelligent Information Hiding  
and Multimedia Signal Processing

IIH-MSP 2008

**TABLE OF CONTENTS**

**VOLUME 1**

**A01: DIGITAL CRIME AND FORENSICS**

<b>Challenges of Location Tracking Techniques in Wireless Forensics</b> .....	1
<i>Emmanuel Velasco, Weifeng Chen, Ping Ji, Raymond Hsieh</i>	
<b>Copyright Protection in Wireless Sensor Networks by Watermarking</b> .....	5
<i>Rong Xiao, Xingming Sun, Ying Yang</i>	
<b>File-Update Based Steganography for Microsoft PowerPoint Files</b> .....	9
<i>Yongping Liu, Xingming Sun, Yuling Liu, Rong Xiao</i>	
<b>Random Index Modulation Based Fragile Watermarking Scheme for Authenticating Colour Images</b> .....	14
<i>Chang-Tsun Li, Yue Li</i>	
<b>A Steganography Scheme in P2P Network</b> .....	18
<i>Zishuai Li, Xingming Sun, Baowei Wang, Xiaoliang Wang</i>	
<b>A Fragile Document Watermarking Technique Based on Wet Paper Code</b> .....	23
<i>Jiaxin Yu, Xinsheng Wang, Jianfei Li, Xu Nan</i>	
<b>A New Watermark Attacking Method Based on Eigen-Image Energy</b> .....	27
<i>Te-Cheng Hsu, Wen-Shyong Hsieh, Tung-Shih Su</i>	

**A02: UBIQUITOUS MULTIMEDIA SERVICES AND APPLICATIONS FOR RESIDENTIAL USERS**

<b>Building an Online Game-Based Learning System for Elementary School</b> .....	31
<i>Yuh-Ming Cheng, Peng-Fei Chen</i>	
<b>The Study of Balance Traffic Load with Genetic Algorithm for PON</b> .....	35
<i>Chun-Ting Huang</i>	
<b>A Hybrid Fast Approach to Secure Group-Oriented Management of Key Trees on Internet</b> .....	39
<i>Chien-Ming You, Mong-Fong Horng, Yau-Hwang Kuo, Wan-Ling Du</i>	
<b>Research on Remote Monitoring and Control System Key Techniques Based on Data Point Table</b> .....	43
<i>Han Xiao, Chao Wang, Na Feng</i>	
<b>An Adaptive Cross-Layer Scheduling Algorithm for Multimedia Networks</b> .....	48
<i>Xiuyuan Li, Xiaojuan Wu, Wenming Li, Xiaogang Wang</i>	
<b>A Model of Smart Home Fusing Multi-intelligence</b> .....	52
<i>Jun-feng Man, Lu-Ming Yang, Wen-qiu Zhu, Qian-qian Li</i>	

<b>Supporting Multiple Classes of Services in IP over WDM Ring Network.....</b>	<b>56</b>
<i>Jih-Hsin Ho, Wen-Shyang Hwang</i>	

<b>A Middleware Design for Block Cipher Seamless Connected into Stream Cipher Mode.....</b>	<b>60</b>
<i>Lan Luo, ZhiGuang Qin, ShiJie Zhou, ShaoQuan Jiang, Juan Wang</i>	

### **A03: INFORMATION RETRIEVAL (1)**

<b>Shape Feature Extraction Using Fourier Descriptors with Brightness in Content-Based Medical Image Retrieval .....</b>	<b>64</b>
<i>Gang Zhang, Z. M. Ma, Qiang Tong, Ying He, Tienan Zhao</i>	

<b>Image Retrieval Based on Fuzzy Color Histogram.....</b>	<b>68</b>
<i>Kai-xing Wu, Qiang Xu</i>	

<b>Combination of Wavelet and SIFT Features for Image Classification Using Trained Gaussian Mixture Model .....</b>	<b>72</b>
<i>Kejun Wang, Zhen Ren, Xinyan Xiong</i>	

<b>Media Adaptation in MPEG-21 DIA, Framework, Activities and Open Issues .....</b>	<b>76</b>
<i>Tian-Yun Huang</i>	

<b>A Novel Facial Image Retrieval Algorithm Based on PLT-PCA.....</b>	<b>80</b>
<i>Qi Han, Chen Song, Meihui Zhang, Xiamu Niu</i>	

<b>An Improved Presentation Method for Relevance Feedback in a Content-Based Image Retrieval System.....</b>	<b>84</b>
<i>Feng-Cheng Chang, Hsueh-Ming Hang</i>	

<b>A Study on the Meta-data Design for Long-Term Digital Multimedia Preservation .....</b>	<b>88</b>
<i>Feng-Cheng Chang, Chin-Yuan Chang, Hsueh-Ming Hang</i>	

### **A04: WIRED AND WIRELESS MULTIMEDIA NETWORKING AND APPLICATIONS**

<b>Performance Framework for P2P Overlay Network.....</b>	<b>92</b>
<i>Takuo Nakashima, Akari Ono, Toshinori Sueyoshi</i>	

<b>Queueing Property for Different Type of Self-Similar Traffics .....</b>	<b>96</b>
<i>Takuo Nakashima, Yusuke Shomura, Toshinori Sueyoshi</i>	

<b>An Animation Engine with the Cubic Spline Interpolation .....</b>	<b>100</b>
<i>Ningping Sun, Toru Ayabe, Kentarou Okumura</i>	

<b>An Approach to Speech Driven Animation .....</b>	<b>104</b>
<i>Ningping Sun, Kaori Suigetsu, Toru Ayabe</i>	

<b>IPTV QoS Implement Mechanism in WLAN .....</b>	<b>108</b>
<i>Jin-Yu Zhang, Man-Gui Liang</i>	

<b>Location Scheme in Wireless Sensor Networks.....</b>	<b>112</b>
<i>Yao Ye, Cai Wandong, Vincent Hilaire, Abder Koukam</i>	

<b>Secure Peer Joining Process in Structured P2P System .....</b>	<b>117</b>
<i>Wei Song, Yuelong Zhao</i>	

<b>Reducing Signaling cost with Simplified mSCTP In Fast Mobile IPv6 .....</b>	<b>121</b>
<i>Jiemin Liu, Jingxin Dou, Hongxing Zou, Yuan Gao</i>	

## **A05: TECHNIQUES AND ALGORITHMS FOR MULTIMEDIA SECURITY (1)**

<b>A Proposal of Falsification Detection System in Structural Design</b> .....	125
<i>Kenshi Uematsu, Ryoichi Sasaki</i>	
<b>Fingerprinting Traffic Log</b> .....	131
<i>Katsunari Yoshioka, Tsutomu Matsumoto</i>	
<b>Expiration Dated Fingerprinting</b> .....	135
<i>Maki Yoshida, Toru Fujiwara</i>	
<b>Lossless Data Hiding Using Bit-Depth Embedding for JPEG2000 Compressed Bit-Stream</b> .....	139
<i>Shogo Ohyama, Michiharu Niimi, Kazumi Yamawaki, Hideki Noda</i>	
<b>Performance Improvement of JPEG2000 Steganography Using QIM</b> .....	143
<i>Takayuki Ishida, Kazumi Yamawaki, Hideki Noda, Michiharu Niimi</i>	
<b>An Adaptive and Fragile Image Watermarking Algorithm Based on Composite Chaotic Iterative Dynamic System</b> .....	147
<i>Shengbing Che, Bin Ma, Zuguo Che</i>	
<b>Robust Audio Watermarking Algorithm Based on Histogram Specification</b> .....	151
<i>Xiaoming Zhang, Xiong Yin, Zhaoyang Yu</i>	
<b>Parameter Modulation Secure Communication Based on Active Control</b> .....	155
<i>Shao-cheng Qu, Mei-jing Gong, Xiao-yan Wang</i>	

## **A06: EVENT ANALYSIS IN VIDEOS**

<b>Face Detection with Automatic White Balance for Digital Still Camera</b> .....	159
<i>Yuan-Kai Wang, Chin-Fa Wang</i>	
<b>Human Action Recognition Using Star Templates and Delaunay Triangulation</b> .....	165
<i>Chi-Hung Chuang, Jun-Wei Hsieh, Luo-Wei Tsai, Kuo-Chin Fan</i>	
<b>Iris Recognition Based on Matching Pursuits</b> .....	169
<i>Yueh-Shiun Lee, Jinn Ho, Wen-Liang Hwang, Chung-Lin Huang</i>	
<b>Dynamic Visual Saliency Modeling for Video Semantics</b> .....	174
<i>Duan-Yu Chen, Hsiao-Rong Tyan, Sheng-Wen Shih, Hong-Yuan Mark Liao</i>	
<b>Digital Image Forgery Detection Based on the Consistency of Defocus Blur</b> .....	178
<i>Xin Wang, Bo Xuan, Si-long Peng</i>	
<b>Video Key Frame Extraction Based on Spatial-Temporal Color Distribution</b> .....	182
<i>Zhonghua Sun, Kebin Jia, Hexin Chen</i>	
<b>A Speaker Identification System for Video Content Analysis</b> .....	186
<i>Jing Bi, Shu-Chang Liu</i>	
<b>Detection of H.264 Shot Change Using Intra Predicted Direction</b> .....	190
<i>Tien-Ying Kuo, Yi-Chung Lo</i>	

## **A07: FINGERPRINTING**

<b>An Asymmetric Multicast Fingerprinting Scheme Based on Secret Sharing</b> .....	194
<i>Ren Yanzhen, Hu RuiMin, Ai Haojun</i>	

<b>A Forward Secure Ring Signature Scheme</b> .....	198
<i>Bao Wansu, Wei Yun</i>	
<b>Trust Derivation and Recommendation Management in a Trust Model</b> .....	202
<i>Lifen Li</i>	
<b>Curve Watermarking Technique for Fingerprinting Digital Maps</b> .....	206
<i>Yongjian Hu, Heung-Kyu Lee, Huafei Zeng</i>	
<b>An Image Fingerprinting Method Robust to Complicated Image Modifications</b> .....	210
<i>Xinghua Yu, Tiejun Huang</i>	
<b>Multicast Video Fingerprinting Scheme with Genetic Algorithm</b> .....	214
<i>Hsiang-Cheh Huang, Yueh-Hong Chen</i>	
<b>Designated Verifier Proxy Signature Scheme</b> .....	218
<i>Yongjian Liao, Qing Lu, Zhiquang Qin</i>	
<b>Copyright Protection for Images with EXIF Metadata</b> .....	222
<i>Hsiang-Cheh Huang, Yueh-Hong Chen, Shin-Chang Chen</i>	

## **A08: DATA HIDING AND STEGANOGRAPHY (1)**

<b>A Steganalysis Method Based on Contourlet Transform Coefficients</b> .....	226
<i>Hedieh Sajedi, Mansour Jamzad</i>	
<b>Reversible Data Hiding for Audio Based on Prediction Error Expansion</b> .....	230
<i>Diqun Yan, Rangding Wang</i>	
<b>Damageless Information Hiding Technique Using Neural Network</b> .....	234
<i>Kensuke Naoe, Yoshiyasu Takefuji</i>	
<b>An Algorithm of Webpage Information Hiding Based on Attributes Permutation</b> .....	238
<i>Huajun Huang, Shaohong Zhong, Xingming Sun</i>	
<b>Estimating Data Hiding Capacity of Gray Scale Images Based on Its bitplanes Structure</b> .....	242
<i>Farzin Yagmaee, Mansour Jamzad</i>	
<b>Halftone Image Data Hiding with Reference to Original Multitone Image</b> .....	246
<i>Chih-Cheng Lo, Chien-Ming Lee, Bin-Yih Liao, Jeng-Shyang Pan</i>	
<b>High Capacity Information Hiding Algorithm for DCT Domain of Image</b> .....	250
<i>Jianquan Xie, Chunhua Yang, Dazu Huang</i>	
<b>A Blind Steganalysis Algorithm of QIM-Based Hiding</b> .....	254
<i>Hai-Ying Gao</i>	

## **A09: CRYPTOGRAPHY (1)**

<b>A Certificateless Restrictive Partially Blind Signature Scheme</b> .....	258
<i>Changji Wang, Rongbo Lu</i>	
<b>A Speech Chaotic Encryption Algorithm Based on Network</b> .....	262
<i>Jing Liu, Fei Gao, Haiyan Ma</i>	
<b>Fast Implementation of SMS4 Cryptographic Algorithms on Smart Card</b> .....	266
<i>Dawei Zhang, Wenrui Ding, Ding Ding</i>	
<b>A Method of Big Prime Number Generator Based on NTL</b> .....	270
<i>Tao Meng, Xiaoqian Wu, Shenghe Sun</i>	

<b>A Security Threshold Subliminal Channel Based on Elliptic Curve Cryptosystem</b> .....	273
<i>Yuhua Xie, Xingming Sun, Lingyun Xiang, Gang Luo</i>	
<b>An AVL Tree-Based Dynamic Key Management in Hierarchical Wireless Sensor Network</b> .....	277
<i>Yi-Ying Zhang, Wen-Cheng Yang, Kee-Bum Kim, Myong-Soon Park</i>	
<b>Data Study on the Chaotic Synchronization Driven by External Chaotic Signal</b> .....	283
<i>Chun-Yan Song, Yu-Long Qiao, Xing-Zhou Zhang</i>	
<b>JPEG Encryption with File Size Preservation</b> .....	287
<i>Xiam Niu, Chongqing Zhou, Jianghua Ding, Bian Yang</i>	

## **A10: TECHNIQUES AND ALGORITHMS FOR MULTIMEDIA SECURITY (2)**

<b>Picture Watermarks Surviving General Affine Transformation and Random Distortion</b> .....	291
<i>Yusuke Atomori, Isao Echizen, Hiroshi Yoshiura</i>	
<b>Information Hiding Method Utilizing Low Visible Natural Fiber Pattern for Printed Documents</b> .....	295
<i>Kitahiro Kaneda, Kenji Hirano, Keiichi Iwamura, Seiichiro Hangai</i>	
<b>A Study of Information Hiding Performance Using Simple Dot Pattern with Different Tile Sizes</b> .....	299
<i>Kitahiro Kaneda, Fumiya Nagai, Keiichi Iwamura, Seiichiro Hangai</i>	
<b>Development of Benchmark Tool for Digital Watermarking</b> .....	303
<i>Kosuke Kamiya, Takuma Mori, Keiichi Iwamura</i>	
<b>Design and Implementation of Synchronized Audio-to-Audio Steganography Scheme</b> .....	307
<i>Xuping Huang, Ryota Kawashima, Norihisa Segawa, Yoshihiko Abe</i>	
<b>A Chinese Text Watermarking Based on Statistic of Phrase Frequency</b> .....	311
<i>Qing-cheng Li, Jin Zhang, Zhen-hua Zhang, Jia-xin Liu</i>	
<b>A Capacity Variable Watermarking Algorithm for 2D Engineering Graphic Based on Complex Number System</b> .....	315
<i>Xiaofeng Huang, Fei Peng, Tao Deng</i>	
<b>A Robust Image Watermarking Scheme Based on a Novel HVS Model in Curvelet Domain</b> .....	319
<i>Yi Xiao, L. M. Cheng, L. L. Cheng</i>	

## **A11: PATTERN RECOGNITION (1)**

<b>Comparison of Two Modern Pattern Recognition Methods</b> .....	324
<i>Xiaochun Shi</i>	
<b>Sign Language Synthesis of Individuation Based on Data Model</b> .....	327
<i>Xiaoyu Wang, Feng Jiang, Hongxun Yao</i>	
<b>An Efficient Model for Isolated Vietnamese Handwritten Recognition</b> .....	331
<i>Pham Anh Phuong, Ngo Quoc Tao, Luong Chi Mai</i>	
<b>New Criterion for Mining Strong Association Rules in Unbalanced Events</b> .....	335
<i>Tong-yan Li, Xing-ming Li</i>	

<b>Using Semantics for Dynamic Access Control of XML Documents in Dynamic Coalition Environment</b> .....	339
<i>Tao Peng, Minghua Jiang, Ming Hu</i>	
<b>MST Clustering Algorithm Based on Optimized Grid</b> .....	343
<i>JianLiang Meng, WeiXiang Cheng</i>	
<b>A Template Protection Scheme For Statistic Feature-based 2D Face Recognition</b> .....	347
<i>Qianwen Wang, Wenjun Huang, Xiamu Niu, Xiuzhan Jiang</i>	
<b>A Face Recognition Algorithm Decreasing the Effect of Illumination</b> .....	351
<i>Yung-Mao Lu, Bin-Yih Liao, Jeng-Shyang Pan</i>	

## **A12: IMAGE AND SPEECH PROCESSING**

<b>An Embedded and Efficient Low Memory Hierarchical Image Coder</b> .....	355
<i>Ren-long Wang, Yan-ling Hao, Ying Liu, Jin Xi</i>	
<b>Improved Hidden Markov Tree Model and Its Application in Image Denoising</b> .....	359
<i>Wenzhe Lu, Zhe Zhang, Xixian Niu</i>	
<b>Image Recovery Based on Effective Image Completion</b> .....	363
<i>Chung-Ming Kuo, Nai-Chung Yang, Wei-Han Chang, Chi-Lin Wu</i>	
<b>Image Editing without Color Inconsistency Using Modified Poisson Equation</b> .....	367
<i>Chuan Qin, Shuozhong Wang, Xinpeng Zhang</i>	
<b>The Study of 3D Reconstruction Method Based on Dynamic Threshold Method and Improved Ray Casting Algorithm</b> .....	372
<i>Huiyan Jiang, Yudong Zhao, Ning Li</i>	
<b>Perceptually Transparent Information Hiding in G.729 Bitstream</b> .....	376
<i>Lihua Liu, Mingyu Li, Qiong Li, Yan Liang</i>	
<b>Compressed Domain Perceptual Hashing for MELP Coded Speech</b> .....	380
<i>Yuhua Jiao, Qiong Li, Xiamu Niu</i>	
<b>Automatic Target Detection and Tracking in FLIR Image Sequences Using Morphological Connected Operator</b> .....	384
<i>Chang'an Wei, Shouda Jiang</i>	

## **A13: VIDEO SIGNAL PROCESSING (1)**

<b>An Extended Self-Adaptive Kalman Filtering Object Motion Prediction Model</b> .....	388
<i>Yunpeng Zhang, Zhengjun Zhai, Xuan Nie, Chunyan Ma, Fei Zuo</i>	
<b>A Novel Algorithm of Fast Detection and Segmentation of Moving Object</b> .....	392
<i>Zhuoyi Lv, Kebin Jia</i>	
<b>Content-Aware Video Transcoding via Visual Attention Model Analysis</b> .....	396
<i>Chia-Hung Yeh, Shih-Meng Chen, Shiunn-Jang Chern</i>	
<b>A Data Layout and Access Control Strategies of the Video Storage Server Based Disk Array</b> .....	400
<i>Yuan-Qing He, Shi-Xin Sun</i>	
<b>A Multi-view Video Coding Method Based on Distributed Source Coding for Free Viewpoint Switching</b> .....	405
<i>Guiguang Ding</i>	

<b>Fast Local Motion Estimation and Robust Global Motion Decision for Digital Image Stabilization</b> .....	409
<i>Tien-Ying Kuo, Chung-Hsin Wang</i>	
<b>Efficient Block-Matching Motion Estimation Algorithm Based on Temporal and Spatial Correlation for H.264</b> .....	413
<i>Zu-jue Chen, Zhi-xiong Zhang, Xing Luo</i>	
<b>A Video Summarization Approach Based on Machine Learning</b> .....	417
<i>Wei Ren, Yuesheng Zhu</i>	

## **A14: WATERMARKING APPLICATIONS (1)**

<b>A New Visually Imperceptible and Robust Image Watermarking Scheme in Contourlet Domain</b> .....	421
<i>Elham Salahi, M. Shahram Moin, Ahmad Salahi</i>	
<b>Software Watermarking Based on Dynamic Program Slicing</b> .....	425
<i>Xiaohong Deng, Guowen Xu, Guang Sun, Junfeng Man</i>	
<b>A Robust Watermarking Scheme Using Selective Curvelet Coefficients</b> .....	429
<i>H. Y. Leung, L. M. Cheng, L. L. Cheng</i>	
<b>Image Watermarking Scheme Using Singular Value Decomposition and Micro-genetic Algorithm</b> .....	433
<i>Chih-Chin Lai, Hsiang-Cheh Huang, Cheng-Chih Tsai</i>	
<b>The 2nd BOWS Contest: Wavelet-Based Bayesian Denoising Attack on Image Watermarking</b> .....	437
<i>Larbi Boubchir, Ayoub Otmani, Nadia Zerida</i>	
<b>Stylometric Watermarking</b> .....	441
<i>Qian Zhang, Nigel Boston</i>	
<b>Multiplicative Watermark Detection Using Locally Optimum Nonlinearity</b> .....	445
<i>Tianyu Ye, Yu Fu, Zhiguo Qu, Xinxin Niu, Yixian Yang</i>	
<b>Mean-Classified and Hierarchical Block Matching Watermarking in Fractal Coding</b> .....	449
<i>Jing-Ming Guo, Chung-Te Yang, Jiann-Der Lee</i>	

## **A15: NETWORKING APPLICATIONS (1)**

<b>A Holonic Model in Wireless Sensor Networks</b> .....	453
<i>Yao Ye, Vincent Hilaire, Abder Koukam, Cai Wandong</i>	
<b>Asymmetric Path Optimization In Mobile Multi-homed SCTP Multimedia Transport</b> .....	458
<i>Jiemin Liu, Hongxing Zou, Jingxin Dou, Yuan Gao</i>	
<b>Research on Three-Dimensional Localization Algorithm in Wireless Sensor Network</b> .....	462
<i>Kai Li, Shijue Zheng, Zhenhua Zheng, Xiaoyan Chen</i>	
<b>Intelligent Campus Multi-application RFID Integration System</b> .....	466
<i>Yuan-bo Chen, Chih-Jen Yang, Gwo-Jia Jong</i>	
<b>Wireless Grid and Storage System Design</b> .....	470
<i>Wenyong Zeng, Yuelong Zhao, Wei Song, Wenfeng Wang</i>	



<b>A Metrics Suite for Static Structure of Large-Scale Software Based on Complex Networks</b> .....	474
<i>Haohua Zhang, Hai Zhao, Wei Cai, Ming Zhao, Guilan Luo, Haohua Zhang</i>	
<b>On the Security of WAI Protocol in the Third Version of WAPI</b> .....	478
<i>Zhao-Hui Tang, Li Xu, Zhide Chen, Fuchun Guo</i>	
<b>Application-Layer Implementation of Service Migration</b> .....	482
<i>Chin-Shiuh Shieh, Che-Wei Hsu, Wei Kuang Lai</i>	

## **B01: DIGITAL FORENSICS AND DATA HIDING DISCOVERY**

<b>Symbian Forensics: An Overview</b> .....	488
<i>Antonio Savoldi, Paolo Gubian</i>	
<b>Measure of Integrity Leakage in Live Forensic Context</b> .....	493
<i>Lei Pan, Antonio Savoldi, Paolo Gubian, Lynn M. Batten</i>	
<b>Methodologies for Detecting Covert Database</b> .....	497
<i>Keun-gi Lee, Antonio Savoldi, Paolo Gubian, Kyung Soo Lim, Seokhee Lee, Sangjin Lee</i>	
<b>Design and Implementation of a Tool for System Restore Point Analysis</b> .....	501
<i>Sun-Mi Yun, Antonio Savoldi, Paolo Gubian, Yeog Kim, Seokhee Lee, Sangjin Lee</i>	
<b>Design and Implementation of a Tool to Detect Accounting Frauds</b> .....	506
<i>Yeog Kim, Antonio Savoldi, Hyewon Lee, Sunmi Yun, Sangjin Lee, Jongjin Lim</i>	
<b>A Gene Immune Detection Algorithm with Complement Operator on the Basis of Biological Immune Principles</b> .....	512
<i>Ya-Jing Zhang, Shuan-Hu Wu</i>	
<b>An Improved Steganalysis Method of LSB Matching</b> .....	516
<i>Xiaoyi Yu, Noboru Babaguchi</i>	
<b>An Evaluation Framework for Kernel-Mode Security Modules</b> .....	520
<i>Hui Zhang, Shenghong Chen, Yuqin Sun, Xiamu Niu</i>	

## **B02: THE APPLICATIONS OF SKIN DETECTION**

<b>Face Recognition by Integrating Chin Outline</b> .....	524
<i>Jiann-Shu Lee, Kai-Yang Huang, Sho-Tsung Kao, Seng-Fong Lin</i>	
<b>Face Recognition Based on Gabor Features and Two-Dimensional PCA</b> .....	529
<i>Yi-Chun Lee, Chin-Hsing Chen</i>	
<b>Hand Detections Based on Invariant Skin-Color Models Constructed Using Linear and Nonlinear Color Spaces</b> .....	534
<i>Cheung-Wen Chang, Yung-Nien Sun</i>	
<b>Knapsack Model for Pixel Based Skin Detection</b> .....	538
<i>Sajad Shirali-Shahreza, Hamid Beigy, M. Hassan Shirali-Shahreza</i>	
<b>Face Localization in Cluttered Background</b> .....	542
<i>Jing-Wein Wang</i>	
<b>Research of Gravity-Based Outliers Detection</b> .....	547
<i>JianLiang Meng, WeiXiang Cheng</i>	
<b>Sensation Based Clothes Search System</b> .....	551
<i>Damon Shing-Min Liu, Ching-I Cheng</i>	

## **B03: ADVANCED DATA HIDING AND CODING TECHNIQUES FOR AUDIO SIGNALS**

<b>Data Hiding for Audio Signals That Are Robust with Respect to Air Transmission and a Speech Codec</b> .....	555
<i>Akira Nishimura</i>	
<b>Steganography in Silence Intervals of Speech</b> .....	559
<i>Sajad Shirali-Shahreza, Mohammad Shirali-Shahreza</i>	
<b>A Technique of Lossless Steganography for G.711 Telephony Speech</b> .....	562
<i>Naofumi Aoki</i>	
<b>Packet Loss Concealment for MDCT-Based Audio Codec Using Correlation-Based Side Information</b> .....	566
<i>Akinori Ito, Kiyoshi Konno, Shozo Makino, Motoyuki Suzuki</i>	
<b>Audio Watermarking Method Based on the Cochlear Delay Characteristics</b> .....	570
<i>Masashi Unoki, Daiki Hamada</i>	
<b>Content-Based Authentication Watermarking with Improved Audio Content Feature Extraction</b> .....	574
<i>Michael Gulbis, Erika Müller, Martin Steinebach</i>	
<b>A Digital Watermark for Stereo Audio Signals Using Variable Interchannel Delay in High Frequency Bands</b> .....	578
<i>Kazuhiro Kondo, Kiyoshi Nakagawa</i>	
<b>On the Accuracy of Estimated Synchronization Positions for Audio Digital Watermarks Using the Modified Patchwork Algorithm on Analog Channels</b> .....	582
<i>Koudai Hiratsuka, Kazuhiro Kondo, Kiyoshi Nakagawa</i>	

## **B04: INTELLIGENT VIDEO PROCESSING**

<b>Generalized Bilinear Interpolation of Motion Vectors for Quad-Tree Mesh</b> .....	586
<i>Chih-Cheng Wei, Chin-Hsing Chen</i>	
<b>Robust Superresolution Reconstruction from Compressed Video Sequences with Occlusion</b> .....	590
<i>Hsi-Kuan Chen, Chin-Hsing Chen, Shih-Jen Wang</i>	
<b>An Adaptive Image Frequency Subbanding Method for High-Frequency Pixel Estimation</b> .....	594
<i>Chao-Yu Chen, Chao-Ho (Thou-Ho) Chen, Tien-Hsiang Huang, Chin-Hsing Chen</i>	
<b>A Novel Efficient VLSI Architecture of 2-D Discrete Wavelet Transform</b> .....	598
<i>Chin-Fa Hsieh, Tsung-Han Tsai, Chih-Hung Lai, Tai-An Shan</i>	
<b>Low Power Adders Design for Portable Video Terminal</b> .....	602
<i>Chien-Hung Lin, Shu-Chung Yi, Jin-Jia Chen</i>	
<b>The Study on Ship-Flow Analysis and Counting System in a Specific Sea-Area Based on Video Processing</b> .....	606
<i>Da-Jinn Wang, Wen-Sheng Chen, Thou-Ho (Chao-Ho) Chen, Tsong-Yi Chen</i>	
<b>H.264 Video Authentication Based on Semi-fragile Watermarking</b> .....	610
<i>Tsong-Yi Chen, Thou-Ho (Chao-Ho) Chen, Yin-Ting Lin, Yin-Chan Chang, Da-Jinn Wang</i>	

## **B05: JOINT SOURCE CHANNEL CODING AND APPLICATIONS**

<b>A Delivery System for Scalable Video Streaming Using the Scalability Extension of H.264/AVC over DiffServ Networks</b> .....	614
<i>Lishui Chen, Guizhong Liu</i>	
<b>GM/LM Based Error Concealment for MPEG-4 Video Transmission over High Lossy and Noisy Networks</b> .....	619
<i>Xumeing Qian, Guizhong Liu, Huan Wang</i>	
<b>A Refined Algorithm for the Side Information in DVC</b> .....	624
<i>Ying Feng, Song Xiao, Chengke Wu, Rui Song</i>	
<b>An Approach to Side Information Estimation Based on Universal Prediction and Motion Compensated Interpolation</b> .....	628
<i>Yangli Wang, Jechang Jeong, Chengke Wu, Song Xiao, Min Zhou</i>	
<b>A H.264 Based Joint Source Channel Coding Scheme over Wireless Channels</b> .....	632
<i>Xuejuan Gao, Li Zhuo, Suyu Wang, Lansun Shen</i>	
<b>Double-Domains-Based Covert Communication Scheme for a RS-Code-Based Multiple Description Image Coding System</b> .....	636
<i>Chuang Lin, Jeng-Shyang Pan</i>	
<b>Multiple Description Image Coding Based on DSC and Pixel Interleaving</b> .....	640
<i>Anhong Wang, Yao Zhao, Jeng-Shyang Pan</i>	
<b>Multiple Descriptions and Adaptive Delivery of Media Content over Wireless</b> .....	644
<i>Tian-Yun Huang</i>	

## **B06: INTELLIGENT SIGNAL AND IMAGE PROCESSING (1)**

<b>Robust Face Recognition Based on Modified ICA without Training Sample of Test Subjects</b> .....	648
<i>Xian-Hua Han, Yen-Wei Chen, Akihiko Yamada, Hideto Fujita</i>	
<b>Gaze Tracking by Binocular Vision Technology and PPBTF Features</b> .....	652
<i>Hu-chuan Lu, Chao Wang, Yen-wei Chen</i>	
<b>Region-Based Segmentation and Auto-Annotation for Color Images</b> .....	656
<i>Yohei Tsurugai, Yuta Iwasaki, Xian-Hua Han, Yen-Wei Chen</i>	
<b>Classification of Brain Matters in MRI by Kernel Independent Component Analysis</b> .....	660
<i>Tomoko Tateyama, Zensho Nakao, Yen-Wei Chen</i>	
<b>Enhancement and detection of lung nodules with Multiscale filters in CT images</b> .....	664
<i>Shingo Takemura, Xianhua Han, Yen-Wei Chen, Kazuhiro Ito, Ikuko Nishikwa, Masahiro Ito</i>	
<b>Interactive System of Artificial Fish School Based on the Extended Boid Model</b> .....	668
<i>Hisashi Kawabayashi, Yen-Wei Chen</i>	
<b>Mapping Functions of Color Image Features and Human KANSEI</b> .....	672
<i>Yen-Wei Chen, Shouta Sobue, Xinyin Huang</i>	

## **B07: IMAGE FEATURE EXTRACTION, COMPRESSION AND WATERMARKING**

<b>A Robust Image Watermarking Scheme Based on the Relationship of SVD</b> .....	676
<i>Xiangyang Sun, Ju Liu, Jiande Sun, Qiang Zhang, Wei Ji</i>	

<b>Intelligent Watermark Recovery Using Spatial Domain Extension</b> .....	680
<i>Shiraz Ahmad, Zhe-Ming Lu</i>	
<b>A Novel ICA-Based Extraction Scheme for Image Watermarking</b> .....	685
<i>Gaorong Zeng, Zhengding Qiu</i>	
<b>Digital Watermarking Algorithms for Vector Images</b> .....	689
<i>Yi Wang, Kuilong Xia, Yu Fan, Qiong Li</i>	
<b>An Improved Adaptive QIM Watermark Iterative Algorithm</b> .....	693
<i>Xinghua Sun, Ju Liu, Jiande Sun, Niqing Yang, Shilong Wu</i>	
<b>Image Registration Using Feature Points Extraction and Pseudo-Zernike Moments</b> .....	697
<i>Zhan-Long Yang, Bao-Long Guo</i>	
<b>Heritage Debris Classification Based on 3D Texture Feature and SVM</b> .....	701
<i>Meng Li, Canjie Huang, Ping Fu, Suyan Yue</i>	
<b>A Novel Preservation Framework for Digital Image Archiving System</b> .....	705
<i>Tien-Ying Kuo, Wen-Hai Hsiao</i>	

## **B08: INFORMATION RETRIEVAL (2)**

<b>An Efficient Data Replication Scheme for Peer-to-Peer Video Streaming over Wireless-Mesh Community Networks</b> .....	709
<i>Jen-Wen Ding, Wan-Ting Wang, Chu-Fu Wang</i>	
<b>Improving Harbin Method for Content Based Landscape Image Retrieval</b> .....	713
<i>Nguyen Huu Quynh, Ngo Quoc Tao</i>	
<b>Feature Selection Based on Correlation between Fuzzy Features and Optimal Fuzzy-Valued Feature Subset Selection</b> .....	717
<i>Jirong Li</i>	
<b>Road Extraction in Remote Sensing Images Using a New Algorithm</b> .....	721
<i>Hua Hu, Ying Liu, Xun Wang, Xia-jun Zhu, Bin Xu</i>	

## **VOLUME 2**

<b>A Novel Information Entropy Shift Based Image Retrieval Algorithm</b> .....	725
<i>Yan Wang, Kebin Jia</i>	
<b>A Unified System for Web Personal Image Retrieval</b> .....	729
<i>Lin Xie, Yao Zhao, Zhenfeng Zhu</i>	
<b>Content-Based Audio Retrieval Using Perceptual Hash</b> .....	733
<i>Qiong Li, Jing Wu, Xin He</i>	

## **B09: VIDEO SIGNAL PROCESSING (2)**

<b>An Effective Motion Estimation Scheme for H.264/AVC</b> .....	737
<i>Pengyu Liu, Kebin Jia</i>	
<b>Deblocking Filter by Color Psychology Analysis for H.264/AVC Video Coders</b> .....	742
<i>Chia-Hung Yeh, Kai-Lin Huang, Shiunn-Jang Chern</i>	

<b>Motion Vector Re-estimation for Video Trans-coding with Arbitrary Downsizing .....</b>	<b>746</b>
<i>Chih-Shan Liu, Wen-Li Wei, Nai-Chung Yang, Chung-Ming Kuo</i>	
<b>Path Virtualization Using Fountain Code for Video Streaming over Heterogeneous Networks .....</b>	<b>750</b>
<i>Sang-Chun Han, Hwangjun Song, Jun Heo</i>	
<b>Subblock-Based BPE Scheme to Conquer Mismatch in Memory Access Pattern .....</b>	<b>754</b>
<i>Bao-Feng Li, Yong Dou</i>	
<b>A Cost-Efficient Bit-Serial Architecture for Sub-pixel Motion Estimation of H.264/AVC .....</b>	<b>758</b>
<i>Mohammad Reza Hosseiny Fatemi, Hasan F. Ates, Rosli Salleh</i>	
<b>Video Monitoring System Based on Amending Model of Motion Vector .....</b>	<b>762</b>
<i>Zu-jue Chen, Wei Jia, Zhi-xiong Zhang</i>	
<b>Framework for Distributed Video Surveillance in Heterogeneous Environment .....</b>	<b>766</b>
<i>Xiang Fu, Bao-long Guo</i>	

## **B10: VIDEO WATERMARKING**

<b>A Real-Time Video Watermarking Using Adjacent Luminance Blocks Correlation Based on Compressed Domain .....</b>	<b>770</b>
<i>Shaohui Liu, Tianhang Chen, Hongxun Yao, Wen Gao</i>	
<b>Broadcast Video Logo Detection and Removing .....</b>	<b>774</b>
<i>Chung-Ming Kuo, Cheng-Ping Chao, Wei-Han Chang, Jin-Long Shen</i>	
<b>Digital Video Multicasting System with Seamless Handover Mechanism .....</b>	<b>778</b>
<i>Ren-Guey Lee, Chun-Chieh Hsiao, Hsin-Hao Tseng, Chih-Chun Lai</i>	
<b>Self-Adaptive Video Watermarking Based on the Motion Characteristic Detection and the Model of Entropy .....</b>	<b>782</b>
<i>Zhi Li , Xiao-Wei Chen</i>	
<b>A Content-Adaptive Digital Watermarking Scheme in H.264/AVC Compressed Videos .....</b>	<b>786</b>
<i>Po-Chyi Su, Ming-Lun Li, Ing-Fan Chen</i>	
<b>Fragile Video Watermarking Technique by Motion Field Embedding with Rate-Distortion Minimization .....</b>	<b>790</b>
<i>Tien-Ying Kuo, Yi-Chung Lo, Chen-I Lin</i>	
<b>A Novel Watermarking Method For Wyner-Ziv Video Coding .....</b>	<b>794</b>
<i>Ning Zhu, Guiguang Ding, Yaguang Yin, Jianmin Wang</i>	

## **B11: PATTERN RECOGNITION (2)**

<b>Face Recognition Based on Chaotic Fuzzy RBF Neural Network .....</b>	<b>798</b>
<i>Jian-liang Meng, Wan-qing Gao, Hui-jing Pang, Wei-hua Niu</i>	
<b>Shallow Semantic Parsing for Lexical Units in Chinese FrameNet .....</b>	<b>802</b>
<i>Xiaoyan Hao, Xiaoming Chang, Kaiying Liu</i>	
<b>An Algorithm for License Plate Recognition System for Non-stop Toll Stations .....</b>	<b>808</b>
<i>Bo Li, Zhi-Yuan Zeng , Jian-Zhong Zhou</i>	
<b>Grid Distance-Based Improving Accuracy Clustering Algorithm .....</b>	<b>812</b>
<i>Chunjiang Pang, Weixiang Cheng, Weihua Niu</i>	

<b>A Volume Segmentation Algorithm for Medical Image Based on K-Means Clustering</b> .....	816
<i>Xinwu Li</i>	
<b>IGSOM: Incremental Clustering Based on Self-Organizing-Mapping</b> .....	820
<i>Ming Liu, Yuan-Chao Liu, Xiao-Long Wang</i>	
<b>Image Recognition Based on a Novel Data Fusion Method</b> .....	826
<i>Qingdong Du, Jin Li, Xiao Chen</i>	

## **B12: OPTIMIZATION TECHNIQUES AND APPLICATIONS (1)**

<b>Parallel Genetic Algorithm Model Based on AHP and Neural Networks for Enterprise Comprehensive Business</b> .....	830
<i>Xilong Qu, Jian Feng, Wenfang Sun</i>	
<b>Parameter Selection of Generalized Fuzzy Entropy-Based Thresholding Segmentation Method with Particle Swarm Optimization</b> .....	834
<i>Bo Lei, Jiu-Lun Fan</i>	
<b>Fault Diagnosis of Distribution System Based on Distributed Chaotic Fuzzy RBF Neural Networks</b> .....	838
<i>Jian-liang Meng, Wan-qing Gao, Hui-jing Pang, Wei-hua Niu</i>	
<b>The FastICA Algorithm Based on Successive Approximations with Superior Convergence Rate</b> .....	842
<i>Constantin Doru, Luminita State</i>	
<b>Incomplete Points Cloud Data Surface Reconstruction Based on Neural Network</b> .....	846
<i>Xue-mei Wu, Gui-xian Li, Wei-min Zhao</i>	
<b>Parameters Optimization of Fuzzy Controller Based on Improved Particle Swarm Optimization</b> .....	850
<i>Dongyun Wang, Guan Wang</i>	
<b>An Implementation of Fuzzy Clustering with Size and Shape Constraints</b> .....	855
<i>Jian-hui Wang, Yan Jiang, Hai-long Zhang</i>	

## **B13: CROSS-DISCIPLINE TECHNIQUES (1)**

<b>An Optimal Predictive Polling Mechanism on EPON</b> .....	859
<i>Jin-Yu Zhang, Man-Gui Liang</i>	
<b>Design and Implementation of A New Practical Grid</b> .....	863
<i>Li Ang, Geng Nan nan, Gao Hong</i>	
<b>Research on the Application of Six Sigma in Software Process Improvement</b> .....	867
<i>Xiaosong Zhao, Zhen He, Fangfang Gui, Shenqing Zhang</i>	
<b>The Research of Trusted Computing Based on the Model of Trusted Meta Data of BSCM</b> .....	871
<i>Liu Zhong</i>	
<b>Configuring RBAC to Simulate Bell Model</b> .....	876
<i>Yong-Zhong He, Zhan Han, Ye Du</i>	

<b>Development on the Partial Discharge On-Line Monitoring System of Transformer Based on Embedded System</b> .....	880
<i>Dening Zhang, Shuguang Zhang, Xuesong Suo, Man Cheng, Hong Juan Kou, Xiang Ling Shi, Su Zhang, Haiquan Li</i>	
<b>Visualization and Cognition of Large-Scale Software Structure Using the k-Core Analysis</b> .....	884
<i>Haohua Zhang, Hai Zhao, Wei Cai, Ming Zhao, Guilan Luo</i>	
<b>Research and Design of Autonomic Software Agent Architecture</b> .....	888
<i>Chuan-Sheng Zhou</i>	

## **B14: WATERMARKING APPLICATIONS (2)**

<b>Source Code Watermarking Based on Function Dependency Oriented Sequencing</b> .....	892
<i>Gaurav Gupta, Josef Pieprzyk</i>	
<b>A New Approach against Color Attacks of Watermarked Images</b> .....	896
<i>Abdelhamid Benhocine, Lamri Laouamer, Laurent Nana, Anca Pascu</i>	
<b>Watermark Detection Using Channel Estimation in the Quantization Based Watermarking System</b> .....	900
<i>Cagatay Karabat, Mehmet Keskinöz</i>	
<b>Variance-Classified Capacity Watermarking Using Discrete Cosine Transform</b> .....	904
<i>Jing-Ming Guo, Yu-Cheng Lu, Jiann-Der Lee</i>	
<b>Introducing a New Method for Estimation Image Complexity According To Calculate Watermark Capacity</b> .....	908
<i>Farzin Yaghmaee, Mansour Jamzad</i>	
<b>A Novel Relational Database Watermarking Algorithm for Joint Ownership</b> .....	912
<i>Yu Fu, Tianyu Ye, Zhiguo Qu, Xinxin Niu, Yixian Yang</i>	
<b>Review on Copyright Marking Techniques of GIS Vector Data</b> .....	916
<i>Anbo Li, Ying Chen, Bingxian Lin, Wei Zhou, Guonian Lü</i>	
<b>A New Wavelet Watermark Scheme of Color Image Based on Chaotic Sequences</b> .....	921
<i>Nian-sheng Liu, Guo-hao Yang, Dong-hui Guo, L. L. Cheng</i>	

## **B15: NETWORKING APPLICATIONS (2)**

<b>Intelligent Hospital Space Platform Combined with RFID and Wireless Sensor Network</b> .....	926
<i>Sheng-Rong Huang, Gwo-Jiun Horng, Gwo-Jia Jong</i>	
<b>Rethinking Retransmission Policy In Concurrent Multipath Transfer</b> .....	930
<i>Jiemin Liu, Hongxing Zou, Jingxin Dou, Yuan Gao</i>	
<b>Cooperative QoS-Aware Routing Algorithm Based on IEEE 802.11 Multi-rate over Mobile Ad Hoc Networks</b> .....	934
<i>Zae-Kwun Lee, Hwangjun Song, Gyeong Cheol Lee</i>	
<b>An Information Hiding Scheme for the MDC-OFDM Wireless Networks</b> .....	938
<i>Chuang Lin, Jeng-Shyang Pan</i>	

<b>The Design and Analysis of Constraint Networks for Uncertain Temporal Interval Relations</b> .....	942
<i>Liguo Deng, Z. M. Ma, Qiang Tong</i>	
<b>Vehicle Information Communication Safety Combined with Mobile RFID System</b> .....	946
<i>Wen-Hao Hsieh, Chien-Jung Ho, Gwo-Jia Jong</i>	
<b>Mobile RFID Integration Home-Care System for Wireless Network</b> .....	950
<i>Jing-Cyun You, Yao-Lung Yeh, Gwo-Jia Jong</i>	
<b>Application of MAC-Based VLANs for Mobile Office in Campus Area Network</b> .....	954
<i>Ning Jiang, Liancheng Shan</i>	

## **C01: BIOMETRICS – FROM SENSORS TO STANDARDIZATION**

<b>Face Recognition Using Separate Layers of the RGB Image</b> .....	958
<i>Patrick Bours, Kirsi Helkala</i>	
<b>Biometric Fusion Using Enhanced SVM Classification</b> .....	966
<i>Menrit S. Fahmy, Amir F. Atyia, Raafat S. Elfouly</i>	
<b>Common Interface for Connecting of Low Profile Biometric Modules</b> .....	972
<i>R. Sanchez-Reillo, L. Mengibar-Pozo, M. G. Lorenz, R. Alonso-Moreno</i>	
<b>Visible-Spectrum Biometric Retina Recognition</b> .....	979
<i>Halvor Borgen, Patrick Bours, Stephen D. Wolthusen</i>	
<b>Pseudo Identities Based on Fingerprint Characteristics</b> .....	986
<i>N. Delvaux, H. Chabanne, J. Bringer, B. Kindarji, P. Lindeberg, J. Midgren, J. Breebaart, T. Akkermans, M. van der Veen, R. Veldhuis, E. Kindt, K. Simoens, C. Busch, P. Bours, D. Gafurov, B. Yang, J. Stern, C. Rust, B. Cucinelli, D. Skepastianos</i>	
<b>Fuzzy Vault for 3D Face Recognition Systems</b> .....	992
<i>Thomas Frassen, Xuebing Zhou, Christoph Busch</i>	
<b>Experiments with Skin Resistance and Temperature for Liveness Detection</b> .....	998
<i>M. Drahansky</i>	
<b>Arm Swing as a Weak Biometric for Unobtrusive User Authentication</b> .....	1003
<i>Davronzhon Gafurov, Einar Snekkkenes</i>	
<b>Biometric Systems and Data Protection Legislation in Germany</b> .....	1011
<i>Martin Meints, Heinz Biermann, Manfred Bromba, Christoph Busch, Gerrit Hornung, Gisela Quiring-Kock</i>	

## **C02: INTELLIGENT WATERMARK HIDING AND DIGITAL IMAGE PROCESSING**

<b>Steganalysis Based on Co-occurrence Matrix of Differential Image</b> .....	1017
<i>Ziwen Sun, Maomao Hui, Chao Guan</i>	
<b>A New Iris Recognition Method Based on Gabor Wavelet Neural Network</b> .....	1021
<i>Zhiping Zhou, Huijun Wu, Qianxing Lv</i>	
<b>Document Watermarking Robust to Copying</b> .....	1025
<i>Bin Luo, Li Li</i>	
<b>A Robust Double Watermarking 3D Mesh Model Based On Feature</b> .....	1029
<i>Xiaoqing Feng, Li li, Zhigen Pan, Shusen Sun, Daxing Zhang</i>	
<b>Robust Remote Authentication for Scalable Web-Based Services</b> .....	1033
<i>Jianbin Li, Kwok-Yan Lam, Hong-Wei Sun, Siu-Leung Chung</i>	



<b>Reversible Data Embedding Using the Sliding Window .....</b>	<b>1038</b>
<i>Chin-Feng Lee, Hsing-Ling Chen</i>	
<b>A Blind Associative Watermark Detection Scheme Using Self-Embedding Technique .....</b>	<b>1042</b>
<i>Chin-Feng Lee, Huai-En Lee</i>	
<b>Software Integration for Applications with Audio Stream .....</b>	<b>1046</b>
<i>Jim-Min Lin, Wen-Gung Cheng, Guo-Ming Fang</i>	

### **C03: INTELLIGENT WATERMARKING TECHNIQUES, IMAGE AUTHENTICATION AND VISUAL CRYPTOGRAPHY (1)**

<b>The Distortion Control Method of Reversible Contrast Mapping Hiding Scheme .....</b>	<b>1050</b>
<i>Tzu-Chuen Lu, Ying-Hsuan Huang</i>	
<b>A Robust Watermarking Algorithm Based on Salient Image Features .....</b>	<b>1054</b>
<i>Yuan-Liang Tang, Chih-Peng Wang</i>	
<b>Efficient Vector Quantization Codebook Generation Based on Histogram Thresholding Algorithm .....</b>	<b>1058</b>
<i>Chang-Chin Huang, Du-Shiau Tsai, Gwoboa Horng</i>	
<b>Secret Sharing Systems with Authentication-Based Steganography .....</b>	<b>1063</b>
<i>Shiuh-Jeng Wang, I-Shuan Lin, Ye-Lin Hsieh, Chi-Yao Weng</i>	
<b>An Effective Demosaicking and Zooming Algorithm for CFA Images .....</b>	<b>1067</b>
<i>Chin-Feng Lee, Pei-Yan Pai, Wen-Hung Huang, Chin-Chen Chang</i>	
<b>A Computation Model for Capacity and Robustness of Robust Image Watermarking Scheme in Spatial Domain .....</b>	<b>1071</b>
<i>Yan-Jun Hu, Xiao-Ping Ma, Lin-Ming Dou, Li Gao</i>	
<b>Research on the Capacity of Error-Correcting Codes-Based Information Hiding .....</b>	<b>1075</b>
<i>Xuehu Yan, Shuai Guan, Xiamu Niu</i>	

### **C04: STEGANOGRAPHY AND WATERMARKING**

<b>IWT-Based Watermarking By Adaptive Bit-Labeling Scheme.....</b>	<b>1079</b>
<i>Ching-Yu Yang, Wei-Ying Hwang, Ya-Fen Cheng</i>	
<b>Use of Quotient-Embedding Scheme with Smart Arrangement Technique to Hide Gray-Scale Data.....</b>	<b>1083</b>
<i>Ching-Yu Yang, Chen-Yuan Lai</i>	
<b>A Data Hiding Method with Capabilities for Information Authentication and Face Image Recovery in E-commerce Applications.....</b>	<b>1087</b>
<i>Da-Chun Wu, Jiun-Sheng Li</i>	
<b>Enhance the Image Sharing with Steganography and Authentication .....</b>	<b>1091</b>
<i>Chia-Chun Wu, Shang-Juh Kao, Wen-Chung Kuo, Min-Shiang Hwang</i>	
<b>Multi-Purpose Image Watermarking Method Based on Wavelet Transform.....</b>	<b>1096</b>
<i>Chih-Hung Lin, Sheng-Lung Chien, Hsiao-Fen Chien</i>	
<b>Multipurpose Image Authentication Method Based on Vector Quantization .....</b>	<b>1100</b>
<i>Chih-Hung Lin, Hsiao-Fen Chien, Sheng-Lung Chien</i>	
<b>Robust Digital Image Watermarking Based on Haar Orthogonal Function System .....</b>	<b>1104</b>
<i>Minghui Deng, Fang Yang, Jingbo Zhen</i>	

## **C05: DIGITAL COMMUNICATIONS**

<b>An FFT-Based DS-SS Signal Acquisition Algorithm Research</b> .....	1108
<i>Jing Xue, Qi Zhao, Zhijie Wu</i>	
<b>The Design and Research of Remote Terminal Unit Based on Radio Technology</b> .....	1112
<i>Chuntao Man, Zhenqi Wang</i>	
<b>Reduced-State Detection for Continuous Phase Modulation (CPM) Signals</b> .....	1116
<i>Zhang Nan, Yang Ping</i>	
<b>Low-Complexity Real-Time LDPC Encoder Design for CMMB</b> .....	1120
<i>Peng Wang, Yong-en Chen</i>	
<b>A Novel Soft-In-Soft-Out Decoder for Nordstrom-Robinson Code</b> .....	1124
<i>Huan Li, Zhiyong Zou, Xiaoxiang Zhao, Kuang Wang</i>	
<b>Wide-Band Low-Noise Quadrature VCO Design</b> .....	1128
<i>Yong-hong Yan, Yan Xie, Wei Peng, Yun Zeng</i>	
<b>Robust Non-blind Detection for Spread Spectrum Watermarking System</b> .....	1132
<i>Cagatay Karabat, Mehmet Keskinöz</i>	
<b>A Novel Grading Noise-Pretreatment Algorithm Based on Time-Frequency Blind Source Separation</b> .....	1136
<i>Er-Fu Chen, Nai-Tong Zhang, Wei-Xiao Meng</i>	

## **C06: INTELLIGENT SIGNAL AND IMAGE PROCESSING (2)**

<b>Multiview Video Service Framework for 3D Mobile Devices</b> .....	1140
<i>Junsup Kwon, Manbae Kim, Changyeol Choi</i>	
<b>An Object Removal Using Multi-view Sequence Inpainting Technique</b> .....	1144
<i>Soon-Young Lee, Jun-Hee Heu, Chang-Su Kim, Sang-Uk Lee</i>	
<b>Challenges and Realization of Real-Time Multi-view Video Transport Systems over IP Networks</b> .....	1148
<i>Jongryool Kim, Koh Choi, Changhyeok Bae, JongWon Kim</i>	
<b>Efficient Prediction Structure for 2-D Wide Multi-view Video Sequence</b> .....	1152
<i>Taeyoung Chung, Kwanwoong Song, Chang-Su Kim</i>	
<b>A Motion Vector Prediction Method For Multi-view Video Coding</b> .....	1156
<i>Sang Heon Lee, Sang Hwa Lee, Nam Ik Cho, Jeong Hyu Yang</i>	
<b>Segment-based Foreground Object Disparity Estimation Using Zcam and Multiple-View Stereo</b> .....	1160
<i>Tae Hoon Kim, Hoyub Jung, Kyoung Mu Lee, Sang Uk Lee</i>	
<b>High Performance Hardware Implementation Architecture for DWT of Lifting Scheme</b> .....	1164
<i>Yanling Hao, Ying Liu, Renlong Wang</i>	

## **C07: AUTHENTICATION**

<b>A User Authentication Scheme Based on Fingerprint and USIM Card</b> .....	1168
<i>Xian-ge Huang, Lei Shen, Yan-hong Feng</i>	

<b>Audio Quality-Based Authentication Using Wavelet Packet Decomposition and Best Tree Selection</b> .....	1172
<i>Fang Chen, Wei Li, Xiaoqiang Li</i>	
<b>A Novel Watermarking-Based Reversible Image Authentication Scheme</b> .....	1176
<i>Tiegang Gao, Qiaolun Gu</i>	
<b>Design and Implementation of Secure Active RFID System with Cryptography and Authentication Mechanisms</b> .....	1180
<i>Hsi-Wen Wang, Chien-Chih Lai, Chun-Chieh Hsiao, Guan-Yu Hsieh, Ren-Guey Lee</i>	
<b>A New Variant of the Diffie-Hellman Key-Exchange Protocol Based on Block Triangular Matrix Groups</b> .....	1184
<i>Jun Yang, Xianze Yang</i>	
<b>Efficient Many-to-One and One-to-Many Multiparty Quantum Secure Direct Communication with Authentication</b> .....	1189
<i>Wenjie Liu, Hanwu Chen, Zhiqiang Li, Jun Zhao</i>	
<b>A 3D Model Authentication Algorithm Based on Reversible Watermarking</b> .....	1193
<i>XiaMu Niu, Wei Song, Meiyu Lu, Wenjun Huang</i>	

## **C08: INTELLIGENT WATERMARKING TECHNIQUES, IMAGE AUTHENTICATION AND VISUAL CRYPTOGRAPHY (2)**

<b>Hiding Data in VQ-Compressed Images Using Pairwise Nearest Codewords Based on Minimum Spanning Tree</b> .....	1197
<i>Chin-Feng Lee, Chin-Chen Chang, Kuo-Hua Wang</i>	
<b>An Image Authentication Scheme for Halftone Images Based upon Error Diffusion</b> .....	1201
<i>Jun-Chou Chuang, Chin-Chen Chang</i>	
<b>Twice Gric Colorings in Steganography</b> .....	1205
<i>Weiming Zhang, Xinpeng Zhang, Shuozhong Wang</i>	
<b>A New Probabilistic Visual Secret Sharing Scheme for Color Images</b> .....	1209
<i>Chin-Chen Chang, Chia-Chen Lin, T. Hoang Ngan Le, Hoai Bac Le</i>	
<b>Covert Communication Based on Subliminal Channel in Broadcast Multi Signature</b> .....	1213
<i>Tao Meng, Jianfeng Wang, Shenghe Sun</i>	
<b>A Color Image Digital Watermarking Method Based on Value-Value Surface</b> .....	1216
<i>Zihua Hu, Jiping Niu</i>	
<b>Analysis Based on Generalized Vector Quantization for Information Hiding</b> .....	1220
<i>Chun-e Zhang, Zhengding Qiu, L. L. Cheng, L. M. Cheng</i>	
<b>A Blocking-Resistant Method for Anonymity System Based on Proxy and Data Hiding</b> .....	1225
<i>Yong Zhang, Jianfeng Yin, Benyang Dai</i>	

## **C09: CRYPTOGRAPHY (2)**

<b>Based MATLAB on Advanced Encryption Standard (AES) IP Validation</b> .....	1230
<i>Xinsheng Wang, Liang Han, Chenxu Wang, Xiaoning Liu</i>	

<b>Breaking Instance II of New TTM Cryptosystems</b> .....	1233
<i>Xuyun Nie, Xin Jiang, Lei Hu, Jintai Ding, Zhiguang Qin</i>	
<b>Secure Communication Based on Synchronization of Unified Chaotic Systems</b> .....	1237
<i>Shao-cheng Qu, Xiao-yan Wang, Mei-jing Gong</i>	
<b>A Novel Symmetric Image Encryption Approach Based on a New Invertible Two-Dimensional Map</b> .....	1241
<i>Feng Huang, Fangfang Lei</i>	
<b>A Public Key Cryptography Based Algorithm for Watermarking Relational Databases</b> .....	1245
<i>Haiting Cui, Xinchun Cui, Mailing Meng</i>	
<b>New Color Image Encryption Algorithm Based on Chaotic Sequences Ranking</b> .....	1249
<i>Jian-liang Meng, Hui-jing Pang, Wan-qing Gao</i>	
<b>A Multiple Encryption Algorithm for 2D Engineering Graphic Based on Fourier Descriptors and Chaos Scrambling</b> .....	1253
<i>Tao Deng, Fei Peng, Xiaofeng Huang</i>	
<b>NCPA: A Scheduling Algorithm for Multi-cipher and Multi-mode Reconfigurable Cryptosystem</b> .....	1257
<i>Chung-Ping Young, Chung-Chu Chia, Liang-Bi Chen, Ing-Jer Huang</i>	
<b><u>C10: NETWORK SECURITY (1)</u></b>	
<b>Assigning Keys in a Hierarchy</b> .....	1261
<i>Jieh-Shan Yeh, Shang-Ru Yang, Chin-Chen Chang, Tzung-Her Chen</i>	
<b>A Novel Digital Signature Scheme for Application of Document Review in a Linearly Hierarchical Organization</b> .....	1265
<i>luon-Chang Lin, Chin-Chen Chang</i>	
<b>An Effective Priority Queue-Based Scheme to Alleviate Malicious Packet Flows from Distributed DoS Attacks</b> .....	1269
<i>Chu-Hsing Lin, Jung-Chun Liu, Fuu-Cheng Jiang, Chien-Ting Kuo</i>	
<b>An Improved Authentication Key Agreement Protocol Based on Elliptic Curve for Wireless Mobile Networks</b> .....	1273
<i>Chin-Chen Chang, Shih-Chang Chang</i>	
<b>Aryabhata Remainder Theorem for Moduli with Common Factors and Its Application in Information Protection Systems</b> .....	1277
<i>Jen-Ho Yang, Chin-Chen Chang</i>	
<b>A Fractional-Step DDoS Attack Source Traceback Algorithm Based on Autonomous System</b> .....	1281
<i>Zhaoyang Qu, Chunfeng Huang</i>	
<b>Covert Channels Based on Jitter Field of the RTCP Header</b> .....	1286
<i>Linda Yunlu Bai, Yongfeng Huang, Guannan Hou, Bo Xiao</i>	
<b>Distinguishing Attack on SN3 Stream Cipher</b> .....	1290
<i>Mohammad Ali Orumiehchi, S. Fahimeh Mohebbipoor</i>	

## **C11: PATTERN RECOGNITION (3)**

<b>DTW/ISODATA Algorithm and Multilayer Architecture in Sign Language Recognition with Large Vocabulary</b> .....	1294
<i>Xiaoyu Wang, Feng Jiang, Hongxun Yao</i>	
<b>Printed Chinese Character Recognition Based on Pixel Distribution Probability of Character Image</b> .....	1298
<i>Ning Wang</i>	
<b>Emotion Recognition of Finger Braille</b> .....	1303
<i>Yasuhiro Matsuda, Tsuneshi Isomura, Ichiro Sakuma, Yasuhiko Jimbo, Etsuko Kobayashi, Tatsuhiko Arafune</i>	
<b>The Research of Vehicle Driving Multimedia Data Recording</b> .....	1307
<i>Meng Hao, Sun Fukang</i>	
<b>A Combined Static and Dynamic Software Birthmark Based on Component Dependence Graph</b> .....	1311
<i>Xiaoming Zhou, Xingming Sun, Guang Sun, Ying Yang</i>	
<b>Image Mosaic Based on SIFT</b> .....	1317
<i>Zhan-Long Yang, Bao-Long Guo</i>	
<b>A New Face Recognition Scheme with Renewable Templates</b> .....	1321
<i>Wenjun Huang, Xin Yu, Qiong Li, Xiamu Niu</i>	

## **C12: OPTIMIZATION TECHNIQUES AND APPLICATIONS (2)**

<b>A Method on Impedance Control of Robots Based on the Neural Network</b> .....	1325
<i>Zhen Yang, Mu-hai Li</i>	
<b>New Neural Network Based on Ant Colony Algorithm for Financial Data Forecasting</b> .....	1329
<i>W. Gao</i>	
<b>The Heuristic Route Algorithm of Multiple Restrictions Based on Quality of Service</b> .....	1333
<i>Fu-sheng Dai, Xian-he Shao</i>	
<b>An Optimized Approach on Reduced Kernel Matrix to ClusterSVM</b> .....	1338
<i>Ya-Li Qi, Wei He, Hou Shu</i>	
<b>On Ant Colony Algorithm for Solving Continuous Optimization Problem</b> .....	1342
<i>Li Hong, Xiong Shibo</i>	
<b>Design Theory of Intellectualized Computer Aided Instruction and Its Applications</b> .....	1346
<i>Aimin Wang, Wenhua Liu</i>	
<b>Particle Swarm Optimization for Gray-Scale Image Noise Cancellation</b> .....	1351
<i>Te-Jen Su, Tzu-Hsiang Lin, Jia-Wei Liu</i>	
<b>BP Neural Network to Distinguish Pregnant Woman by Arterial Pressure Pulse Waveform Analysis</b> .....	1355
<i>Lu Wang, Dianzhong Wen</i>	

## **C13: CROSS-DISCIPLINE TECHNIQUES (2)**

<b>An Efficient USR Eliminating Mechanism on EPON</b> .....	1359
<i>Jin-Yu Zhang, Man-Gui Liang</i>	
<b>Application Research of Secondary Development Technology for the Replacement of Furniture Part Based on Inventor API</b> .....	1363
<i>Lexiao Ye, Yigang Wang, Dajian Liu, Jianqi Chen</i>	
<b>Research and Implementation on Middleware of Database Workload Autonomic Adaptation</b> .....	1368
<i>Fu Duan, Yuxing Wang, Chanchan Zhao, Yueqin Zhang</i>	
<b>Trust Evaluation Model for Composite Service Based on Subjective Logic</b> .....	1372
<i>Meihua Chen, Liang He, Xueming Cai, Weiwei Xia</i>	
<b>WBISD: A Debugger of Web-Based Interactive Services</b> .....	1376
<i>Lei Liu, Hong Ni</i>	
<b>Research and Analysis of Bias Voltage on Variable-Capacitance Micro-mechanical Accelerometer</b> .....	1380
<i>Xuemei Hu, Linhong Tian</i>	
<b>The Research on Non-destructive Testing Method of Sheet Resistance in Micro Area of Silicon Wafer Based on EIT Technology</b> .....	1384
<i>Xinfu Liu, Jinhe Liu, Zhanping Du, Quanming Zhao, Junying Zhao, Yuhui Huang</i>	
<b>Research on Communication Constellation Simulation Based on Exploratory Analysis</b> .....	1388
<i>Ying Yang, Ying-Hua Li, Yong Li</i>	

## **C14: DATA HIDING AND STEGANOGRAPHY (2)**

<b>A Statistical Attack on a Kind of Word-Shift Text-Steganography</b> .....	1391
<i>Lingjun Li, Liusheng Huang, Xinxin Zhao, Wei Yang, Zhili Chen</i>	
<b>Improvements of Image-Steganalysis Using Boosted Combinatorial Classifiers and Gaussian High Pass Filtering</b> .....	1396
<i>Nima Asadi, Mansour Jamzad, Hediéh Sajedi</i>	
<b>Implementation of Covert Communication Based on Steganography</b> .....	1400
<i>Yongfeng Huang, Bo Xiao, Honghua Xiao</i>	
<b>Steganalysis of Data Hiding for Two-Dimensional Engineering Graphics Based on Characters Statistic</b> .....	1404
<i>Fei Peng, Xingming Sun</i>	
<b>New Steganography Scheme in Halftone Images</b> .....	1408
<i>Ching-Nung Yang, Yao-Yu Yang, Tse-Shih Chen, Guo-Cin Ye</i>	
<b>A New Synonym Text Steganography</b> .....	1412
<i>M. Hassan Shirali-Shahreza, Mohammad Shirali-Shahreza</i>	
<b>Steganalysis of LSB Matching Based on Co-occurrence Matrix and Removing Most Significant Bit Planes</b> .....	1415
<i>M. Abolghasemi, H. Aghainia, K. Faez, M. A. Mehrabi</i>	

## **C15: NETWORK SECURITY (2)**

<b>An Iris Cryptosystem for Information Security</b> .....	1419
<i>Xiangqian Wu, Ning Qi, Kuanquan Wang, David Zhang</i>	
<b>An Efficient Proxy Signature Scheme for Realizing Generalized Proxy Signing Policy</b> .....	1423
<i>luon-Chang Lin, Chin-Chen Chang, Jen-Ho Yang</i>	
<b>An Efficient Non-repudiation Mechanism for SIP-Based Services</b> .....	1427
<i>Ming-Way Huang, Hsing-Bai Chen, Wei-Bin Lee</i>	
<b>Preserving PHI in Compliance with HIPAA Privacy/Security Regulations Using Cryptographic Techniques</b> .....	1431
<i>Jing Li, Jung-San Lee, Chin-Chen Chang</i>	
<b>Programming Method for Failure of Network Security Based on Game Model</b> .....	1435
<i>Xuansen He</i>	
<b>A Grid Resource Discovery Model Using P2P Technology</b> .....	1439
<i>Zenggang Xiong, Yang Yang, Xuemin Zhang, Ming Zeng, Li Liu</i>	
<b>ASCON - A Synchronization-Concurrency Control Model For Distributed Multimedia Systems</b> .....	1443
<i>Janani Arthanari, A. Kannan</i>	
<b>Communications Security Research on "Man-in-the-Loop" Television Guidance System Data Link</b> .....	1447
<i>Chao Sun, Yukun Liu, Shouda Jiang</i>	
<b>Author Index</b>	