# Table of Contents, Part I

## Volume I

### Art

Categorizing Traditional Chinese Painting Images .............................. 1  
   Shuqiang Jiang, Tiejun Huang

A Knowledge-Driven Approach for Korean Traditional Costume (Hanbok) Modeling .......... 9  
   Yang-Hee Nam, Bo-Ran Lee, Crystal S. Oh

Retrieval of Chinese Calligraphic Character Image .......................... 17  
   Yueting Zhuang, Xiafen Zhang, Jiangqin Wu, Xiqun Lu

### Network (I)

Random Channel Allocation Scheme in HIPERLAN/2 .......................... 25  
   Eui-Seok Hwang, Jeong-Jae Won, You-Chang Ko, Hyong-Woo Lee, Choong-Ho Cho

A Two-Stage Queuing Approach to Support Real-Time QoS Guarantee for Multimedia Services in TDMA Wireless Networks ....................... 33  
   Ren-Hao Cheng, Po-Cheng Huang, Mong-Fong Horng, Jiang-Shuang Ker, Yau-Hwang Kuo

Performance Evaluation of Adaptive Rate Control (ARC) for Multimedia Traffic ................................................................. 41  
   Surasee Prahmkaew, Chanintorn Jittawiriyakoon

### Sports (I)

A Tennis Video Indexing Approach Through Pattern Discovery in Interactive Process ................................................................. 49  
   Peng Wang, Rui Cai, Shi-Qiang Yang

Online Play Segmentation for Broadcasted American Football TV Programs .................. 57  
   Liexian Gu, Xiaoying Ding, Xian-Sheng Hua

Semantic Analysis of Basketball Video Using Motion Information .......... 65  
   Song Liu, Haoran Yi, Liang-Tien Chia, Deepu Rajan, Syin Chan
Table of Contents, Part I

Immersive Conferencing: Novel Interfaces and Paradigms for Remote Collaboration

Reach-Through-the-Screen: A New Metaphor for Remote Collaboration ........................................... 73
   Jonathan Foote, Qiong Liu, Don Kimber, Patrick Chiu, Frank Zhao

Working Documents ................................................................. 81
   Paul Luff, Hideaki Kuzuoka, Christian Heath, Jun Yamashita, Keiichi Yamazaki

Immersive Meeting Point ..................................................... 89
   Ralf Tanger, Peter Kauff, Oliver Schreer

EnhancedTable: Supporting a Small Meeting in Ubiquitous and Augmented Environment ...................... 97
   Hideki Koike, Shin’ichiro Nagashima, Yasuto Nakanishi, Yoichi Sato

Remote Collaboration on Physical Whiteboards ....................... 105
   Zhengyou Zhang, Li-wei He

Network (II)

Aggressive Traffic Smoothing for Delivery of Online Multimedia ........ 114
   Jeng-Wei Lin, Ray-I Chang, Jan-Ming Ho, Feipei Lai

Distributed Video Streaming Using Multicast (DVSM) .................. 122
   Ramesh Yerraballi, ByungHo Lee

Centralized Peer-to-Peer Streaming with PFGS Video Codec ........... 131
   Ivan Lee, Ling Guan

Buffer Level Estimation for Seamless Media Streaming in Mobile IPv6 Networks ................................ 139
   Dongwook Lee, JongWon Kim

Dynamic Walks for Searching Streaming Media in Peer-to-Peer Networks ....................................... 147
   Zhou Su, Jiro Katto, Yasuhiko Yasuda

Image Retrieval

An Image Retrieval Scheme Using Multi-instance and Pseudo Image Concepts ...................................... 157
   Feng-Cheng Chang, Hsueh-Ming Hang
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Representation of Clipart Image Using Shape and Color</td>
<td>165</td>
</tr>
<tr>
<td>Jeong-Hyun Cho, Chang-Gyu Choi, Yongseok Chang, Sung-Ho Kim</td>
<td></td>
</tr>
<tr>
<td>Automatic Categorization for WWW Images with Applications</td>
<td>174</td>
</tr>
<tr>
<td>Koji Nakahira, Satoshi Ueno, Kiyoharu Aizawa</td>
<td></td>
</tr>
<tr>
<td>Region-Based Image Retrieval with Scale and Orientation Invariant Features</td>
<td>182</td>
</tr>
<tr>
<td>Surong Wang, Liang-Tien Chia, Deepu Rajan</td>
<td></td>
</tr>
<tr>
<td>SOM-Based Sample Learning Algorithm for Relevance Feedback in CBIR</td>
<td>190</td>
</tr>
<tr>
<td>Tatsunori Nishikawa, Takahiko Horiuichi, Hiroaki Kotera</td>
<td></td>
</tr>
<tr>
<td>Classification of Digital Photos</td>
<td>198</td>
</tr>
<tr>
<td>Taken by Photographers or Home Users</td>
<td></td>
</tr>
<tr>
<td>Hanghang Tong, Mingjing Li, Hong-Jiang Zhang, Jingrui He, Changshui Zhang</td>
<td></td>
</tr>
<tr>
<td><strong>Image Analysis (I)</strong></td>
<td></td>
</tr>
<tr>
<td>Background Modeling Using Phase Space for Day and Night Video Surveillance Systems</td>
<td>206</td>
</tr>
<tr>
<td>Yu-Ming Liang, Arthur Chun-Chieh Shih, Hsiao-Rong Tyan, Hong-Yuan Mark Liao</td>
<td></td>
</tr>
<tr>
<td>Sequential Robust Direct Motion Estimation with Equal Projective Basis</td>
<td>214</td>
</tr>
<tr>
<td>Jong-Eun Ha, Dong-Joong Kang, Muh-Ho Jeong</td>
<td></td>
</tr>
<tr>
<td>Generation of 3D Urban Model</td>
<td>222</td>
</tr>
<tr>
<td>Using Cooperative Hybrid Stereo Matching</td>
<td></td>
</tr>
<tr>
<td>Dong-Min Woo, Howard Schultz, Young-Kee Jung, Kyu-Won Lee</td>
<td></td>
</tr>
<tr>
<td>Segmentation of Interest Objects</td>
<td>230</td>
</tr>
<tr>
<td>Using the Hierarchical Mesh Structure</td>
<td></td>
</tr>
<tr>
<td>Dong-Keun Lim, Yo-Sung Ho</td>
<td></td>
</tr>
<tr>
<td>A Rapid Scheme for Slow-Motion Replay Segment Detection</td>
<td>239</td>
</tr>
<tr>
<td>Wei-Hong Chuang, Dun-Yu Hsiao, Soo-Chang Pei, Homer Chen</td>
<td></td>
</tr>
<tr>
<td>Recognition of Very Low-Resolution Characters from Motion Images</td>
<td>247</td>
</tr>
<tr>
<td>Captured by a Portable Digital Camera</td>
<td></td>
</tr>
<tr>
<td>Shinsuke Yanadume, Yoshito Mekada, Ichiro Ide, Hiroshi Murase</td>
<td></td>
</tr>
</tbody>
</table>
An Effective Anchorperson Shot Extraction Method
Robust to False Alarms .................................................. 255
  Sang-Kyun Kim, Doo Sun Hwang, Ji-Yeun Kim, Yang-Seock Seo

A Region Based Image Matching Method
with Regularized SAR Model ................................. 263
  Yaowei Wang, Weiqiang Wang, Yanfei Wang

Shot Classification and Scene Segmentation
Based on MPEG Compressed Movie Analysis ................. 271
  Masaru Sugano, Masanori Furuya, Yasuyuki Nakajima,
  Hiromasa Yanagihara

Moving Object Segmentation:
A Block-Based Moving Region Detection Approach ........ 280
  Wei Zeng, Qingming Huang

A Multi-view Camera Tracking for Modeling of Indoor Environment ... 288
  Kiyoung Kim, Woontack Woo

Image Registration Using Triangular Mesh ................. 298
  Ben Yip, Jesse S. Jin

Online Learning Objectionable Image Filter Based on SVM ........ 304
  Yang Liu, Wei Zeng, Hongxun Yao

Motion Objects Segmentation Using a New Level Set Based Method ... 312
  Hongqiang Bao, Zhaoyang Zhang

3-D Shape Analysis of Anatomical Structures
Based on an Interactive Multi-resolution Approach .......... 319
  Soo-Mi Choi, Jeong-Sik Kim, Yong-Guk Kim, Joo-Young Park

Integrating Color, Texture, and Spatial Features
for Image Interpretation ............................................ 327
  Hui-Yu Huang, Yang-Sheng Chen, Wen-Hsing Hsu

Automatic Video Genre Detection for Content-Based Authoring .... 335
  Sung Ho Jin, Tae Meon Bae, Yong Man Ro

Face, Gesture, and Behavior (I)

Face Appeal Model Based on Statistics ......................... 344
  Bi Song, Mingjing Li, Zhiwei Li, Hong-Jiang Zhang,
  Zhengkai Liu

A Novel Gabor-LDA Based Face Recognition Method ........... 352
  Yanwei Pang, Lei Zhang, Mingjing Li, Zhengkai Liu,
  Weiyong Ma
Table of Contents, Part I XIII

Gesture-Based User Interfaces for Handheld Devices
Using Accelerometer .................................................. 359
   Ikjin Jang, Wonbae Park

Face and Gesture Recognition Using Subspace Method
for Human-Robot Interaction .................................. 369
   Md. Hasanuzzaman, T. Zhang, V. Ampornamveth,
   M.A. Bhuiyan, Y. Shirai, H. Ueno

Spatial Histogram Features for Face Detection in Color Images ........ 377
   Hongming Zhang, Debin Zhao

Correlation Filters for Facial Recognition Login Access Control ........ 385
   Daniel E. Riedel, Wanquan Liu, Ronny Tjahjadi

Easy and Convincing Ear Modeling for Virtual Human .................. 394
   Hui Zhang, In Kyu Park

Virtual Reality and Computer Graphics

A Polyhedral Object Recognition Algorithm for Augmented Reality ..... 402
   Dong-Joong Kang, Jong-Eun Ha, Muh-Ho Jeong

Spectral Coding of Three-Dimensional Mesh Geometry Information
Using Dual Graph ..................................................... 410
   Sung-Yeol Kim, Seung-Uk Yoon, Yo-Sung Ho

Real-Time Free-Viewpoint Video Generation
Using Multiple Cameras and a PC-Cluster .......................... 418
   Megumu Ueda, Daisaku Arita, Rin-ichiro Taniguchi

Framework for Smooth Optical Interaction
Using Adaptive Subdivision in Virtual Production .................... 426
   Seung Man Kim, Naveen Dachuri, Kwan H. Lee

Projection-Based Registration Using Color
and Texture Information for Virtual Environment Generation ........ 434
   Sehwan Kim, Kiyoun Kim, Woontack Woo

Enhanced Synergistic Image Creator: An NPR Method
with Natural Curly Brushstrokes .................................. 444
   Atsushi Kasao, Kazunori Miyata

Content Production (I)

An XMT Authoring System
Supporting Various Presentation Environments ...................... 453
   Heesun Kim
An Adaptive Scene Compositor Model in MPEG-4 Player for Mobile Device ........................................... 461
   Hyunjoo Lee, Sangwook Kim

JPEG2000 Image Adaptation for MPEG-21 Digital Items .................... 470
   Yiqun Hu, Liang-Tien Chia, Deepu Rajan

An Annotation Method and Application for Video Contents Based on a Semantic Graph .................................. 478
   Tomohisa Akafuji, Kaname Harumoto, Keishi Kandori, Kōiti Hasida, Shinji Shimojo

An Annotated-Objects Assist Method for Extraction of Ordinary-Objects in a Video Content Generation Support System .... 487
   Wenli Zhang, Shunsuke Kamijyo, Masao Sakauchi

**Intelligent Media Integration for Social Information Infrastructure**

Free-Viewpoint TV (FTV) System ........................................ 497
   Toshiaki Fujii, Masayuki Tanimoto

In-Car Speech Recognition Using Distributed Multiple Microphones ...... 505
   Weifeng Li, Takanori Nishino, Chiyomi Miyajima, Katsunobu Ito, Kazuya Takeda, Fumitada Itakura

Development of Advanced Image Processing Technology and Its Application to Computer Assisted Diagnosis and Surgery ...... 514
   Takayuki Kitasaka, Kensaku Mori, Yasuhito Suenaga

Discussion Mining: Annotation-Based Knowledge Discovery from Real World Activities .................................. 522
   Katashi Nagao, Katshiko Kaji, Daisuke Yamamoto, Hiroshi Tomobe

Determining Correspondences Between Sensory and Motor Signals ...... 532
   Kento Nishibori, Jinji Chen, Yoshinori Takeuchi, Tetsuya Matsumoto, Hiroaki Kudo, Noboru Ohnishi

**Approaches or Methods of Security Engineering**

Architecture of Authentication Mechanism for Emerging T-commerce Environments ............................... 540
   Sangkyun Kim, Hong Joo Lee, Choon Seong Leem

Threat Description for Developing Security Countermeasure .......... 548
   Seung-youn Lee, Myong-chul Shin, Jae-sang Cha, Tai-hoon Kim
RPS: An Extension of Reference Monitor to Prevent Race-Attacks ....... 556
   Jongwoon Park, Gunhee Lee, Sangha Lee, Dong-kyoo Kim

SITIS: Scalable Intrusion Tolerance Middleware for Internet Service Survivability ......................... 564
   GangShin Lee, Chaetae Im, TaeJin Lee, HyungJong Kim, Dong Hoon Lee

On Minimizing Distortion in Secure Data-Hiding for Binary Images ...... 572
   Yongsu Park, Yookun Cho

Software Design Method Enhanced by Appended Security Requirements .................................. 578
   Eun-ser Lee, Sun-myung Hwang

**Multimedia Servers**

On the Disk Layout for Periodical Video Broadcast Services ......... 586
   Meng-Huang Lee

Paged Segment Striping Scheme for the Dynamic Scheduling of Continuous Media Servers .......................... 594
   KyungOh Lee, J.B. Lee, Kee-Wook Rim

A Heuristic Packet Scheduling Algorithm for Media Streaming with Server Diversity ..................................... 602
   Yajie Liu, Wenhua Dou, Heying Zhang

Proxy Caching Scheme Based on the Characteristics of Streaming Media Contents on the Internet ............... 610
   Hyeonok Hong, Seungwon Lee, Seongho Park, Yongju Kim, Kidong Chung

A Distributed VOD Server Based on VIA and Interval Cache ........ 618
   Soo-Cheol Oh, Sang-Hwa Chung

**Video Retrieval**

Clustering of Video Packets Using Interactive Refinement by Relevance Feedback .............................. 626
   Yukihiro Kinoshita, Naoko Nitta, Noboru Babaguchi

Semantic Video Indexing and Summarization Using Subtitles ........... 634
   Haoran Yi, Deepu Rajan, Liang-Tien Chia

Audio Visual Cues for Video Indexing and Retrieval .................. 642
   Paisarn Muneesawang, Tahir Amin, Ling Guan
Key Image Extraction from a News Video Archive for Visualizing Its Semantic Structure ............................ 650
Hiroshi Mo, Fuminori Yamagishi, Ichiro Ide, Norio Katayama,
Shin’ichi Satoh, Masao Sakauchi

Author Index ................................................ 659
## Table of Contents, Part II

### Volume II

**Application of Video Browsing to Consumer Video Browsing Products**

- Generic Summarization Technology for Consumer Video ............... 1
  *Masaru Sugano, Yasuyuki Nakajima, Hiromasa Yanagihara, Akio Yoneyama*

- Movie-in-a-Minute: Automatically Generated Video Previews .......... 9
  *Mauro Barbieri, Neco Dmitevo, Lalitha Agnihotri*

- Automatic Sports Highlights Extraction with Content Augmentation .... 19
  *Kongwah Wan, Jinjun Wang, Changsheng Xu, Qi Tian*

- Audio-Assisted Video Browsing for DVD Recorders .................. 27
  *Ajay Divakaran, Isao Otsuka, Regunathan Radhakrishnan, Kazuho Nakane, Masaharu Ogawa*

**Watermarking (I)**

- A Robust Image Watermarking Technique for JPEG Images
  Using QuadTrees ................................................. 34
  *Kil-Sang Yoo, Mi-Ae Kim, Won-Hyung Lee*

- A Fragile Watermarking Technique for Image Authentication
  Using Singular Value Decomposition ................................. 42
  *Vivi Oktavia, Won-Hyung Lee*

- Visual Cryptography for Digital Watermarking in Still Images ....... 50
  *Gwo-Chin Tai, Long-Wen Chang*

- A New Object-Based Image Watermarking Robust
to Geometrical Attacks ............................................ 58
  *Jung-Soo Lee, Whoi-Yul Kim*

- A Selective Image Encryption Scheme Based on JPEG2000 Codec ...... 65
  *Shiguo Lian, Jinsheng Sun, Dengfeng Zhang, Zhiqun Wang*

- VQ-Based Gray Watermark Hiding Scheme
  and Genetic Index Assignment ..................................... 73
  *Feng-Hsing Wang, Jeng-Shyang Pan, Lakhmi Jain, Hsiang-Cheh Huang*
User Interface (I)

Advanced Paper Document in a Projection Display ......................... 81
Kwangjin Hong, Keechul Jung

Improving Web Browsing on Small Devices
Based on Table Classification ............................................. 88
Chong Wang, Xing Xie, Wenyuan Wang, Wei-Ying Ma

A Java-Based Collaborative Authoring System
for Multimedia Presentation ............................................. 96
Mee Young Sung, Do Hyung Lee

Object Tracking and Object Change Detection
in Desktop Manipulation for Video-Based Interactive Manuals ............ 104
Yosuke Tsubuku, Yuichi Nakamura, Yuichi Ohta

Design of an Integrated Wearable Multimedia Interface
for In-Vehicle Telematics ............................................. 113
Seongil Lee, Sang Hyuk Hong

Content-Based Image Retrieval

Video Scene Retrieval with Sign Sequence Matching
Based on Audio Features .................................................... 121
Keisuke Morisawa, Naoko Nitta, Noboru Babaguchi

Architecture and Analysis of Color Structure Descriptor
for Real-Time Video Indexing and Retrieval ............................. 130
Jing-Ying Chang, Ching-Jr Lian, Hung-Chi Fang,
Liang-Gee Chen

Automatic Salient-Object Extraction Using the Contrast Map
and Salient Points ............................................................ 138
SooYeong Kwak, ByoungChul Ko, Hyeran Byun

Shape-Based Image Retrieval Using Invariant Features .................... 146
Jong-Seung Park, TaeYong Kim

Visual Trigger Templates for Knowledge-Based Indexing .................. 154
Alejando Jaimes, Qinhui Wang, Noriji Kato, Hitoshi Ikeda,
Jun Miyazaki

Browsing and Similarity Search of Videos
Based on Cluster Extraction from Graphs ................................ 162
Seiji Hotta, Senya Kiyasu, Sucharu Miyahara

Correlation Learning Method
Based on Image Internal Semantic Model for CBIR ....................... 172
Lijuan Duan, Guojun Mao, Wen Gao
Controlling Concurrent Accesses in Multimedia Databases for Decision Support .............................................. 180
   Woochun Jun, Suk-ki Hong

Image Retrieval by Categorization Using LVQ Network with Wavelet Domain Perceptual Features .......................... 188
   M.K. Bashar, Noboru Ohnishi, Kiyoshi Agusa

A Content-Based News Video Browsing and Retrieval System: NewsBR .......................................................... 197
   Huayong Liu, Zhang Hui

A News Video Browser Using Identical Video Segment Detection........... 205
   Fuminori Yamagishi, Shin’ichi Satoh, Masao Sakauchi

Pseudo Relevance Feedback Based on Iterative Probabilistic One-Class SVMs in Web Image Retrieval ............................................ 213
   Jingrui He, Mingjing Li, Zhiwei Li, Hong-Jiang Zhang, Hanghang Tong, Changshui Zhang

Robust Video Similarity Retrieval Using Temporal MIMB Moments ..... 221
   Duan-Yu Chen, Suh-Yin Lee

Complete Performance Graphs in Probabilistic Information Retrieval .... 229
   N. Sebe, D.P. Huijsmans, Q. Tian, T. Gevers

A New MPEG-7 Standard: Perceptual 3-D Shape Descriptor .............. 238
   Duck Hoon Kim, In Kyu Park, Il Dong Yun, Sang Uk Lee

News Video Summarization Based on Spatial and Motion Feature Analysis ......................................................... 246
   Wen-Nung Lie, Chun-Ming Lai

Sports (II)

SketchIt: Basketball Video Retrieval Using Ball Motion Similarity ........ 256
   Sitaram Bhagavathy, Motaz El-Saban

Implanting Virtual Advertisement into Broadcast Soccer Video ........... 264
   Changsheng Xu, Kong Wah Wan, Son Hai Bui, Qi Tian

Automatic Video Summarization of Sports Videos Using Metadata ...... 272
   Yoshimasa Takahashi, Naoko Nitta, Noboru Babaguchi

Classification of Frames from Broadcasted Soccer Video and Applications ......................................................... 281
   Qing Tang, Jesse S. Jin, Haiping Sun
An Online Learning Framework for Sports Video View Classification .... 289

Jun Wu, XianSheng Hua, JianMin Li, Bo Zhang,
HongJiang Zhang

A Semantic Description Scheme of Soccer Video Based on MPEG-7 .... 298

Lin Liu, Xiuzi Ye, Min Yao, Sanyuan Zhang

Spatio-temporal Pattern Mining in Sports Video ...................... 306

Dong-Jun Lan, Yu-Fei Ma, Wei-Ying Ma, Hong-Jiang Zhang

Archiving Tennis Video Clips Based on Tactics Information .......... 314

Jenny R. Wang, Nandan Prameswaran, Xinguo Yu,
Changsheng Xu, Qi Tian

Network (III)

Performance Evaluation of High-Speed TCP Protocols with Pacing ...... 322

Young-Soo Choi, Kang-Won Lee, You-Ze Cho

Time-Triggered and Message-Triggered Object Architecture
for Distributed Real-Time Multimedia Services ..................... 330

Doo-Hyun Kim, Eun Hwan Jo, Moon Hae Kim

A Novel Multiple Time Scale Congestion Control Scheme
for Multimedia Traffic ............................................ 338

Hao Yin, Chuang Lin, Ting Cui, Xiao-meng Huang,
Zhang-xi Tan

Dynamic Programming Based Adaptation of Multimedia Contents
in UMA ................................................................. 347

Truong Cong Thang, Yong Ja Jung, Yong Man Ro

Performance Analysis of MAC Protocol for EPON Using OPNET ...... 356

Min-Suk Jung, Jong-hoon Eom, Sang-Ho Kim

Adaptive FEC Control
for Reliable High-Speed UDP-Based Media Transport .............. 364

Young-Woo Kwon, Hyeyoung Chang, JongWon Kim

Efficient Overlay Network for P2P Content Sharing Based
on Network Identifier ............................................. 373

Chanmo Park, JongWon Kim

A Forward-Backward Voice Packet Loss Concealment Algorithm
for Multimedia over IP Network Services .......................... 381

Mi Suk Lee, Hong Kook Kim, Seung Ho Choi, Eung Don Lee,
Do Young Kim
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Delay-Based End-to-End Congestion Avoidance Scheme for Multimedia Networks</td>
<td>389</td>
</tr>
<tr>
<td>Li Yan, Bin Qiu, Lichang Che</td>
<td></td>
</tr>
<tr>
<td>Dynamic Bandwidth Allocation for Internet Telephony</td>
<td>397</td>
</tr>
<tr>
<td>Yiu-Wing Leung</td>
<td></td>
</tr>
<tr>
<td>Streaming (I)</td>
<td></td>
</tr>
<tr>
<td>A Broadcasting Technique for Holographic 3D Movie Using Network Streaming</td>
<td>405</td>
</tr>
<tr>
<td>Kunihiko Takano, Koki Sato, Ryoji Wakabayashi, Kenji Muto, Kazuo Shimada</td>
<td></td>
</tr>
<tr>
<td>Coping with Unreliable Peers for Hybrid Peer-to-Peer Media Streaming</td>
<td>415</td>
</tr>
<tr>
<td>Sung-Hoon Sohn, Yun-Cheol Back, Juno Chang</td>
<td></td>
</tr>
<tr>
<td>Evaluation of Token Bucket Parameters for VBR MPEG Video</td>
<td>423</td>
</tr>
<tr>
<td>Sang-Hyun Park, Yoon Kim</td>
<td></td>
</tr>
<tr>
<td>Perceptual Video Streaming by Adaptive Spatial-Temporal Scalability</td>
<td>431</td>
</tr>
<tr>
<td>Wei Lai, Xiao-Dong Gu, Ren-Hua Wang, Li-Rong Dai, Hong-Jiang Zhang</td>
<td></td>
</tr>
<tr>
<td>A Proxy Caching System Based on Multimedia Streaming Service over the Internet</td>
<td>439</td>
</tr>
<tr>
<td>Hui Guo, Jingli Zhou, Dong Zeng, Shengsheng Yu</td>
<td></td>
</tr>
<tr>
<td>Simulation and Development of Event-Driven Multimedia Session</td>
<td>447</td>
</tr>
<tr>
<td>Nashwa Abdel-Baki, Hans Peter Großmann</td>
<td></td>
</tr>
<tr>
<td>Applying Linux High-Availability and Load Balancing Servers for Video-on-Demand (VOD) Systems</td>
<td>455</td>
</tr>
<tr>
<td>Chao-Tung Yang, Ko-Tzu Wang, Kuan-Ching Li, Liang-Teh Lee</td>
<td></td>
</tr>
<tr>
<td>Visual Content Mining in Multimedia Documents</td>
<td></td>
</tr>
<tr>
<td>Indexing Issues in Supporting Similarity Searching</td>
<td>463</td>
</tr>
<tr>
<td>Hanan Samet</td>
<td></td>
</tr>
<tr>
<td>Efficient Visual Content Retrieval and Mining in Videos</td>
<td>471</td>
</tr>
<tr>
<td>Josef Sivic, Andrew Zissernan</td>
<td></td>
</tr>
<tr>
<td>Fast and Robust Short Video Clip Search for Copy Detection</td>
<td>479</td>
</tr>
<tr>
<td>Junsong Yuan, Ling-Yu Duan, Qi Tian, Surendra Ranganath, Changsheng Xu</td>
<td></td>
</tr>
</tbody>
</table>
Mining Large-Scale Broadcast Video Archives
Towards Inter-video Structuring ........................................ 489
Norio Katayama, Hiroshi Mo, Ichiro Ide, Shin’ichi Satoh

Sample Selection Strategies for Relevance Feedback
in Region-Based Image Retrieval ........................................ 497
Marin Ferecatu, Michel Crucianu, Nozha Boujemaa

Compression (I)

Comparison of Two Different Approaches to Detect Perceptual Noise
for MPEG-4 AAC .......................................................... 505
Cheng-Hsun Yu, Shingchern D. You

Optimum End-to-End Distortion Estimation
for Error Resilient Video Coding ........................................ 513
Yuan Zhang, Qingming Huang, Yan Lu, Wen Gao

Enhanced Stochastic Bit Reshuffling
for Fine Granular Scalable Video Coding .............................. 521
Wen-Hsiao Peng, Tsiao Chang, Hsueh-Ming Hang, Chen-Yi Lee

High-Performance Motion-JPEG2000 Encoder
Using Overlapped Block Transferring and Pipelined Processing .... 529
Byeong-Doo Choi, Min-Cheol Hwang, Ju-Hun Nam,
Kyung-Hoon Lee, Sung-Jea Ko

Low-Power Video Decoding
for Mobile Multimedia Applications ................................. 537
Seongsoo Lee, Min-Cheol Hong

Adaptive Macro Motion Vector Quantization .......................... 545
Luis A. da Silva Cruz

Face, Gesture, and Behavior (II)

Automatic, Effective, and Efficient 3D Face Reconstruction
from Arbitrary View Image ............................................... 553
Changhu Wang, Shuicheng Yan, Hua Li, Hongjiang Zhang,
Mingjing Li

Recognition and Retrieval of Face Images
by Semi-supervised Learning ............................................. 561
Kohei Inoue, Kiichi Urahama

3-D Facial Expression Recognition-Synthesis
on PDA Incorporating Emotional Timing ............................. 569
Doo-Soo Lee, Yang-Bok Lee, Soo-Mi Choi, Yong-Guk Kim,
Moon-Hyun Kim
Probabilistic Face Tracking Using Boosted Multi-view Detector ........ 577
Peihua Li, Haijing Wang

Face Samples Re-lighting for Detection
Based on the Harmonic Images ................................. 585
Jie Chen, Yuemin Li, Laiyun Qing, Baocai Yin, Wen Gao

A Dictionary Registration Method
for Reducing Lighting Fluctuations in Subspace Face Recognition ...... 593
Kenji Matsuo, Masayuki Hashimoto, Atsushi Koike

Applications (I)

A 3D-Dialogue System Between Game Characters to Improve Reality
in MMORPG .......................................................... 601
Dae-Woong Rhee, Il-Seok Won, Hyunjoo Song, Hang Kook Park,
Juno Chang, Kang Ryoun Park, Yongjoo Cho

A Hybrid Approach to Detect Adult Web Images .................... 609
Qing-Fang Zheng, Ming-Ji Zhang, Wei-Qiang Wang

A Hierarchical Dynamic Bayesian Network Approach
to Visual Tracking .................................................. 617
Hua Li, Rong Xiao, Hong-Jiang Zhang, Li-Zhong Peng

A Hybrid Architectural Framework
for Digital Home Multimedia Multi-modal Collaboration Services ...... 625
Doo-Hyun Kim, Vinod Cherian Joseph, Kyunghee Lee,
Eun Hwan Jo

E-learning as Computer Games:
Designing Immersive and Experiential Learning ...................... 633
Ang Chee Siang, G.S.V. Radha Krishna Rao

Event-Based Surveillance System for Efficient Monitoring ............ 641
Do Joon Jung, Se Hyun Park, Hang Joon Kim

A Collaborative Multimedia Authoring System
Based on the Conceptual Temporal Relations ......................... 649
Mee Young Sung

Multimedia Integration for Cooking Video Indexing .................. 657
Reiko Hamada, Koichi Miura, Ichiro Ide, Shin’ichi Satoh,
Shuichi Sakai, Hidehiko Tanaka

Teleconference System with a Shared Working Space
and Face Mouse Interaction ........................................ 665
Jin Hak Kim, Sang Chul Ahn, Hyoun-Gon Kim
User Interface (II)

Performance Analysis for Serially Concatenated FEC in IEEE802.16a over Wireless Channels ........................................ 672
   Kao-Lung Huang, Hsueh-Ming Hang

Successive Interference Cancellation for CDMA Wireless Multimedia Services .................................. 680
   Jin Young Kim, Yong Kim

SCORM-Based Contents Collecting Using Mobile Agent in M-Learning ........................................ 688
   Sun-Gwan Han, Hae-Soop Han, Jae-Bong Kim

Improved Bit-by-Bit Binary Tree Algorithm in Ubiquitous ID System ........................................ 696
   Ho-Seung Choi, Jae-Ryong Cha, Jae-Hyun Kim

Automatic Synchronized Browsing of Images Across Multiple Devices........................................ 704
   Zhigang Hua, Xing Xie, Hanqing Lu, Wei-Ying Ma

   Jang-Woon Baek, Dae-Wha Seo

Platform Architecture for Seamless MMS Service over WLAN and CDMA2000 Networks ................. 720
   Su-Yong Kim, Yong-Bum Cho, Sang-Joon Cho

Make Stable QoS in Wireless Multimedia Ad Hoc Network with Transmission Diversity ..................... 728
   Chao Zhang, Mingmei Li, Xiaokang Lin, Shigeki Yamada, Mitsutoshi Hatori

Gaze from Motion: Towards Natural User Interfaces ........................................ 736
   Mun-Ho Jeong, Masamichi Ohsugi, Ryuji Funayama, Hiroki Mori

The Development of MPEG-4 Based RTSP System for Mobile Multimedia Streaming Services .............. 746
   Sangyoun Lee, Hyunwoo Park, Taesoo Yun

Seamless Mobile Service for Pervasive Multimedia ........................................ 754
   Enyi Chen, Degan Zhang, Yuanchun Shi, Guangyou Xu

Transformation of MPEG-4 Contents for a PDA Device ........................................ 762
   Sangwook Kim, Kyungdeok Kim, Sookyoung Lee
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semantic Retrieval in a Large-Scale Video Database by Using Both Image and Text Feature</td>
<td>770</td>
</tr>
<tr>
<td>Chuan Yu, Hiroshi Mo, Norio Katayama, Shin’ichi Satoh, Shoichiro Asano</td>
<td></td>
</tr>
<tr>
<td><strong>Image Analysis (II)</strong></td>
<td></td>
</tr>
<tr>
<td>Performance of Correlation-Based Stereo Algorithm</td>
<td>778</td>
</tr>
<tr>
<td>with Respect to the Change of the Window Size</td>
<td></td>
</tr>
<tr>
<td>Dong-Min Woo, Howard Schultz, Edward Riseman, Allen Hanson</td>
<td></td>
</tr>
<tr>
<td>Consideration of Illuminant Independence in MPEG-7 Color Descriptors</td>
<td>786</td>
</tr>
<tr>
<td>Sang-Kyun Kim, Yanglim Choi, Wonhee Choe, Du-Sik Park, Ji-Yeun Kim, Yang-Seock Seo</td>
<td></td>
</tr>
<tr>
<td>Improvement on Colorization Accuracy by Partitioning Algorithm in CIELAB Color Space</td>
<td>794</td>
</tr>
<tr>
<td>Tomohisa Takahama, Takahiko Horiuchi, Hiroaki Kotera</td>
<td></td>
</tr>
<tr>
<td>Gabor-Kernel Fisher Analysis for Face Recognition</td>
<td>802</td>
</tr>
<tr>
<td>Baochang Zhang</td>
<td></td>
</tr>
<tr>
<td>Film Line Scratch Detection Using Neural Network</td>
<td>810</td>
</tr>
<tr>
<td>Sin Kuk Kang, Eun Yi Kim, Kee Chul Jung, Hang Joon Kim</td>
<td></td>
</tr>
<tr>
<td>A Simplified Half Pixel Motion Estimation Algorithm Based on the Spatial Correlation</td>
<td>818</td>
</tr>
<tr>
<td>HyeSun Yoon, Miyoung Kim</td>
<td></td>
</tr>
<tr>
<td>A New Tracking Mechanism for Semi-automatic Video Object Segmentation</td>
<td>824</td>
</tr>
<tr>
<td>Zhi Liu, Jie Yang, Ningsong Peng</td>
<td></td>
</tr>
<tr>
<td>A Visual Model for Estimating the Perceptual Redundancy Inherent in Color Images</td>
<td>833</td>
</tr>
<tr>
<td>Chun-Hsien Chou, Kuo-Cheng Liu</td>
<td></td>
</tr>
<tr>
<td>Selective Image Sharpening by Simultaneous Nonlinear-Diffusion Process</td>
<td>841</td>
</tr>
<tr>
<td>with Spatially Varying Parameter Presetting</td>
<td></td>
</tr>
<tr>
<td>Takahiro Saito, Shigemitsu Anyoji, Takashi Komatsu</td>
<td></td>
</tr>
<tr>
<td>Directional Weighting-Based Demosaicking Algorithm</td>
<td>849</td>
</tr>
<tr>
<td>Tsung-Nan Lin, Chih-Lung Hsu</td>
<td></td>
</tr>
<tr>
<td>A New Text Detection Algorithm in Images/Video Frames</td>
<td>858</td>
</tr>
<tr>
<td>Qixiang Ye, Qingming Huang</td>
<td></td>
</tr>
</tbody>
</table>
Automatic Video Object Tracking Using a Mosaic-Based Background

Young-Kee Jung, Kyu-Won Lee, Dong-Min Woo, Yo-Sung Ho

Audio Analysis

Semantic Region Detection in Acoustic Music Signals

Namunu Chinthaka Maddage, Changsheng Xu, Arun Shenoy, Ye Wang

Audio Classification for Radio Broadcast Indexing:
Feature Normalization and Multiple Classifiers Decision

Christine Sénac, Eliathamby Ambikairajh

Dominant Feature Vectors Based Audio Similarity Measure

Jing Gu, Lie Lu, Rui Cai, Hong-Jiang Zhang, Jian Yang

Moving from Content to Concept-Based Image/Video Retrieval

Generative Grammar of Elemental Concepts

Jose A. Lay, Ling Guan

Learning Image Manifold Using Web Data

Xin-Jing Wang, Wei-Ying Ma, Xing Li

Novel Concept for Video Retrieval in Life Log Application

Datchakorn Tancharoen, Kiyoharu Aizawa

Content-Based Retrieval of 3D Head Models
Using a Single Face View Query

Pui Fong Yeung, Hau San Wong, Horace H.-S. Ip

Region-Based Image Retrieval with Perceptual Colors

Ying Liu, Dengsheng Zhang, Guojun Lu, Wei-Ying Ma

H.264

Converting DCT Coefficients to H.264/AVC Transform Coefficients

Jun Xin, Anthony Vetro, Huifang Sun

An Adaptive Hybrid Mode Decision Scheme for H.264/AVC Video
over Unreliable Packet Networks

Feng Huang, Jenq-Neng Hwang, Yuzhuo Zhong

Workload Characterization of the H.264/AVC Decoder

Tse-Tsung Shih, Chia-Lin Yang, Yi-Shin Tung
An Efficient Traffic Smoothing Method
for MPEG-4 Part-10 AVC/H.264 Bitstream over Wireless Network 967
Kwang-Pyo Choi, Inchoon Choi, Byeangwoo Jeon,
Keun-Young Lee

An Error Resilience Scheme for Packet Loss Recover of H.264 Video 975
Ziqing Mao, Rong Yan, Ling Shao, Dong Xie

Key Techniques of Bit Rate Reduction for H.264 Streams 985
Peng Zhang, Qing-Ming Huang, Wen Gao

Face, Gesture, and Behavior (III)

Salient Region Detection Using Weighted Feature Maps
Based on the Human Visual Attention Model 993
Yiqun Hu, Xing Xie, Wei-Ying Ma, Liang-Tien Chia,
Deepu Rajan

An Attention-Based Decision Fusion Scheme
for Multimedia Information Retrieval 1001
Xian-Sheng Hua, Hong-Jiang Zhang

Approximating Inference on Complex Motion Models
Using Multi-model Particle Filter 1011
Jianyu Wang, Debin Zhao, Shiguang Shan, Wen Gao

Human Activity Recognition in Archaeological Sites
by Hidden Markov Models 1019
Marco Leo, Paolo Spagnolo, Tiziana D’Orazio, Arcangelo Distante

An HMM Based Gesture Recognition
for Perceptual User Interface 1027
HyeSun Park, EunYi Kim, SangSu Jang, HangJoon Kim

Vision-Based Sign Language Recognition
Using Sign-Wise Tied Mixture HMM 1035
Liangguo Zhang, Guolin Fang, Wen Gao, Xilin Chen,
Yiqiang Chen

Author Index 1043
Table of Contents, Part III

**Human-Scale Virtual Reality and Interaction**

WARAJI: Foot-Driven Navigation Interfaces for Virtual Reality Applications ........................................ 1

*Salvador Barrera, Piperakis Romanos, Suguru Saito, Hiroki Takahashi, Masayuki Nakajima*

Time Space Interface Using DV (Digital Video) and GPS (Global Positioning System) Technology – A Study with an Art Project “Field-Work@Alsace” .......................... 8

*Masaki Fujihata*

Action Generation from Natural Language .................................................. 15

*Satoshi Funatsu, Tomofumi Koyama, Suguru Saito, Takenobu Tokunaga, Masayuki Nakajima*

Human-Scale Interaction with a Multi-projector Display and Multimodal Interfaces ........................................ 23

*Naoki Hashimoto, Jaeho Ryu, Seungzoo Jeong, Makoto Sato*

Entertainment Applications of Human-Scale Virtual Reality Systems .... 31

*Akihiko Shirai, Kiichi Kobayashi, Masahiro Kawakita, Shoichi Hasegawa, Masayuki Nakajima, Makoto Sato*

Analysis and Synthesis of Latin Dance Using Motion Capture Data ..... 39

*Noriko Nagata, Kazutaka Okumoto, Daisuke Iwai, Felipe Toro, Seiji Inokuchi*

**Surveillance and Tracking**

Web-Based Telepresence System Using Omni-directional Video Streams ........................................ 45

*Kazumasa Yamazawa, Tomoya Ishikawa, Tomokazu Sato, Sei Ikeda, Yutaka Nakamura, Kazutoshi Fujikawa, Hideki Sunahara, Naokazu Yokoya*

Wide View Surveillance System with Multiple Smart Image Sensors and Mirrors ........................................ 53

*Ryusuke Kawahara, Satoshi Shimizu, Takayuki Hamamoto*

Object Tracking and Identification in Video Streams with Snakes and Points ........................................ 61

*Bruno Lameyre, Valerie Gouet*
Using a Non-prior Training Active Feature Model ........................................... 69  
   Sangjin Kim, Jinyoung Kang, Jeongho Shin, Seongwon Lee,  
   Joonki Paik, Sangkyu Kang, Besma Abidi, Mongi Abidi

An Immunological Approach to Raising Alarms in Video Surveillance .......... 79  
   Lukman Sasmita, Wanquan Liu, Svetha Venkatesh

Sat-Cam: Personal Satellite Virtual Camera ................................................. 87  
   Hansung Kim, Itaru Kitahara, Kiyoshi Kogure, Norhiro Hagita,  
   Kwanghoon Sohn

**Image Analysis (III)**

A Linear Approximation Based Method  
for Noise-Robust and Illumination-Invariant Image Change Detection ........ 95  
   Bin Gao, Tie-Yan Liu, Qian-Sheng Cheng, Wei-Ying Ma

3D Model Similarity Measurement with Geometric Feature Map Based  
on Phase-Encoded Range Image ................................................................. 103  
   Donghui Wang, Chengyang Cai

Automatic Peak Number Detection in Image Symmetry Analysis ............. 111  
   Jingrui He, Mingjing Li, Hong-Jiang Zhang, Banghang Tong,  
   Changshui Zhang

Image Matching Based on Singular Value Decomposition ....................... 119  
   Feng Zhao

Image Matching Based on Scale Invariant Regions ................................. 127  
   Lei Qin, Wei Zeng, Weiqiang Wang

**Compression (II)**

A Method for Blocking Effect Reduction Based on Optimal Filtering .......... 135  
   Daehee Kim, Yo-Sung Ho

Novel Video Error Concealment Using Shot Boundary Detection .......... 143  
   You-Neng Xiao, Xiang-Yang Xue, Ruo-Nan Pu, Hong Lu,  
   Congjie Mi

Using Only Long Windows in MPEG-2/4 AAC Encoding ........................... 151  
   Fu-Mau Chang, Shingchern D. You

Frequency Weighting and Selective Enhancement  
for MPEG-4 Scalable Video Coding ......................................................... 159  
   Seung-Hwan Kim, Yo-Sung Ho

Efficient Multiview Video Coding Based on MPEG-4 ............................... 167  
   Wenxian Yang, King Ngi Ngan, Jianfei Cai
Table of Contents, Part III

Block Matching Using Integral Frame Attributes ......................... 175
   Viet Anh Nguyen, Yap-Peng Tan

Impact of Similarity Threshold on Arbitrary Shaped Pattern Selection Very Low Bit-Rate Video Coding Algorithm ....................... 184
   Manoranjan Paul, Manzur Murshed

A Study on the Quantization Scheme in H.264/AVC and Its Application to Rate Control ........................................ 192
   Siwei Ma, Wen Gao, Debin Zhao, Yan Lu

An Efficient VLSI Implementation for MC Interpolation of AVS Standard .................................................. 200
   Lei Deng, Wen Gao, Ming-Zeng Hu, Zhen-Zhou Ji

Fast Fractal Image Encoder Using Non-overlapped Block Classification and Simplified Isometry Testing Scheme ......................... 207
   Youngjoon Han, Hawik Chung, Hernsoo Hahn

A Fast Downsizing Video Transcoder Based on H.264/AVC Standard ... 215
   Chih-Hung Li, Chung-Neng Wang, Tihao Chiang

Temporal Error Concealment with Block Boundary Smoothing ........ 224
   Woong Il Choi, Byeungwoo Jeon

Spatio-temporally Adaptive Regularization for Enhancement of Motion Compensated Wavelet Coded Video .......................... 232
   Junghoon Jung, Hyunjong Ki, Seongwon Lee, Jeongho Shin, Jinyoung Kang, Joonki Paik

ROI and FOI Algorithms for Wavelet-Based Video Compression ....... 241
   Chaoqiang Liu, Tao Xia, Hui Li

Adaptive Distributed Source Coding for Multi-view Images ............. 249
   Mehrdad Panahpour Tehrani, Michael Droese, Toshiaki Fujii, Masayuki Tanimoto

Hybrid Multiple Description Video Coding Using SD/MD Switching .... 257
   Il Koo Kim, Nam Ik Cho

Streaming (II)

Clusters-Based Distributed Streaming Services with Fault-Tolerant Schemes ......................................... 265
   Xiaofei Liao, Hai Jin

Towards SMIL Document Analysis Using an Algebraic Time Net ...... 273
   A. Abdelli, M. Daoudi
MULTFRC-LERD: An Improved Rate Control Scheme for Video Streaming over Wireless ........................................ 282
  Xiaolin Tong, Qingming Huang

Multi-source Media Streaming for the Contents Distribution in a P2P Network ........................................... 290
  Sung Yong Lee, Jae Gil Lee, Chang Yeol Choi

A New Feature for TV Programs: Viewer Participation Through Videoconferencing ........................................ 298
  Jukka Rauhala, Petri Vuorimaa

Application Layer Multicast with Proactive Route Maintenance over Redundant Overlay Trees ......................... 306
  Yohei Kunichika, Jiro Katto, Sakae Okubo

Real-Time Rate Control Via Variable Frame Rate and Quantization Parameters ............................................. 314
  Chi-Wah Wong, Oscar C. Au, Raymond Chi-Wing Wong, Hong-Kwai Lam

The Structure of Logically Hierarchical Cluster for the Distributed Multimedia on Demand ............................ 323
  Xuhui Xiong, Shengsheng Yu, Jingli Zhou

Watermarking (II)

Image Forensics Technology for Digital Camera ........................................... 331
  Jongweon Kim, Youngbae Byun, Jonguk Choi

Lossless Data Hiding Based on Histogram Modification of Difference Images ............................................. 340
  Sang-Kwang Lee, Young-Ho Sub, Yo-Sung Ho

A Robust Image Watermarking Scheme to Geometrical Attacks for Embedment of Multibit Information ............... 348
  Jung-Soo Lee, Whoi-Yul Kim

Combined Encryption and Watermarking Approaches for Scalable Multimedia Coding ................................... 356
  Feng-Cheng Chang, Hsiang-Cheh Huang, Hsueh-Ming Hang

Digital Image Watermarking Using Independent Component Analysis ......................................................... 364
  Viet Thang Nguyen, Jagdish Chandra Patra

Clustering-Based Image Retrieval Using Fast Exhaustive Multi-resolution Search Algorithm ......................... 372
  Byung Cheol Song, Kang Wook Chun
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robust Watermarking for Copyright Protection of 3D Polygonal Model</td>
<td>378</td>
</tr>
<tr>
<td><em>Wan-Hyun Cho, Myung-Eun Lee, Hyun Lim, Soon-Young Park</em></td>
<td></td>
</tr>
<tr>
<td>Digital Video Scrambling Method Using Intra Prediction Mode</td>
<td>386</td>
</tr>
<tr>
<td><em>Jihaeung Ahn, Hiuk Jae Shim, Byungwoo Jeon, Inchoon Choi</em></td>
<td></td>
</tr>
<tr>
<td>Watermark Re-synchronization Using Sinusoidal Signals in DT-CWT Domain</td>
<td>394</td>
</tr>
<tr>
<td><em>Miin-Luen Day, Suh-Yin Lee, I-Chang Jou</em></td>
<td></td>
</tr>
<tr>
<td>The Undeniable Multi-signature Scheme Suitable for Joint Copyright Protection on Digital Contents</td>
<td>402</td>
</tr>
<tr>
<td><em>Sang-Hyun Yun, Hyung-Woo Lee</em></td>
<td></td>
</tr>
<tr>
<td>A Digital Watermarking Scheme for Personal Image Authentication Using Eigenface</td>
<td>410</td>
</tr>
<tr>
<td><em>Chien-Hsung Chen, Long-Wen Chang</em></td>
<td></td>
</tr>
<tr>
<td>Cryptanalysis of a Chaotic Neural Network Based Multimedia Encryption Scheme</td>
<td>418</td>
</tr>
<tr>
<td><em>Chengqing Li, Shujun Li, Dan Zhang, Guanrong Chen</em></td>
<td></td>
</tr>
<tr>
<td>A Secure Steganographic Method on Wavelet Domain of Palette-Based Images</td>
<td>426</td>
</tr>
<tr>
<td><em>Wei Ding, Xiang-Wei Kong, Xin-Gang You, Zi-Ren Wang</em></td>
<td></td>
</tr>
<tr>
<td>Mapping Energy Video Watermarking Algorithm Based on Compressed Domain</td>
<td>433</td>
</tr>
<tr>
<td><em>Lijun Wang, HongXun Yao, ShaoHui Liu, Wen Gao</em></td>
<td></td>
</tr>
<tr>
<td>A Fragile Image Watermarking Based on Mass and Centroid</td>
<td>441</td>
</tr>
<tr>
<td><em>Hui Han, HongXun Yao, ShaoHui Liu, Yan Liu</em></td>
<td></td>
</tr>
<tr>
<td><strong>Content Production (II)</strong></td>
<td></td>
</tr>
<tr>
<td>MPEG-21 DIA Testbed for Stereoscopic Adaptation of Digital Items</td>
<td>449</td>
</tr>
<tr>
<td><em>Hyunsik Sohn, Haksoo Kim, Manbae Kim</em></td>
<td></td>
</tr>
<tr>
<td>An MPEG-4 Authoring System with Temporal Constraints for Interactive Scene</td>
<td>457</td>
</tr>
<tr>
<td><em>Heesun Kim</em></td>
<td></td>
</tr>
<tr>
<td>A Method of Digital Camera Work Focused on Players and a Ball (Toward Automatic Contents Production System of Commentary Soccer Video by Digital Shooting)</td>
<td>466</td>
</tr>
<tr>
<td><em>Masahito Kumano, Yasuo Ariki, Kiyoshi Tsukada</em></td>
<td></td>
</tr>
<tr>
<td>Real-Time Rendering of Watercolor Effects for Virtual Environments</td>
<td>474</td>
</tr>
<tr>
<td><em>Su Ian Eugene Lei, Chun-Fa Chang</em></td>
<td></td>
</tr>
</tbody>
</table>
Haptic Interaction in Realistic Multimedia Broadcasting ............... 482
    Jongeun Cha, Jeha Ryu, Seungjun Kim, Seongeun Eom, Byungha Ahn

Object-Based Stereoscopic Conversion of MPEG-4 Encoded Data ........ 491
    Manbae Kim, Sanghoon Park, Youngran Cho

Applications (II)

Shared Annotation Database for Networked Wearable Augmented Reality System ............ 499
    Koji Makita, Masayuki Kanbara, Naokazu Yokoya

A Study on Image Electronic Money Based on Watermarking Technique ........................................ 508
    Jung-Soo Lee, Jong-Weon Kim, Kyu-Tae Kim, Jong-Uk Choi, Whoi-Yul Kim

A Fully Automated Web-Based TV-News System ............ 515

An Evolutionary Computing Approach for Mining of Bio-medical Images ............ 523
    Shashikala Tapaswi, R.C. Joshi

Movie-Based Multimedia Environment for Programming and Algorithms Design ............ 533
    Dmitry Vazhenin, Alexander Vazhenin, Nikolay Mirenkov

An Improvement Algorithm for Accessing Patterns Through Clustering in Interactive VRML Environments ............ 542
    Damon Shing-Min Liu, Shao-Shin Hung, Ting-Chia Kuo

Multimedia Analysis

MPEG-4 Video Retrieval Using Video-Objects and Edge Potential Functions ............ 550
    Minh-Son Dao, Francesco G.B. DeNatale, Andrea Massa

A Unified Framework Using Spatial Color Descriptor and Motion-Based Post Refinement for Shot Boundary Detection ............ 558
    Wei-Ta Chu, Wen-Huang Cheng, Sheng-Fang He, Chia-Wei Wang, Ja-Ling Wu

HMM-Based Audio Keyword Generation ............ 566
    Min Xu, Ling-Yu Duan, Jianfei Cai, Liang-Tien Chia, Changsheng Xu, Qi Tian
Video Scene Segmentation Using Sequential Change Detection ........... 575
Zhenyan Li, Hong Lu, Yap-Peng Tan

Feature Extraction and Evaluation Using Edge Histogram Descriptor in MPEG-7 ............................................................... 583
Chee Sun Won

Automatic Synthesis of Background Music Track Data by Analysis of Video Contents .................................................. 591
Toshio Modegi

Compression (III)

Picture Quality Improvement in Low Bit Rate Video Coding Using Block Boundary Classification and Simple Adaptive Filter ........ 599
Kee-Koo Kwon, Jin-Suk Ma, Sung-Ho Im, Dong-Sun Lim

Bit Position Quantization in Scalable Video Coding for Representing Detail of Image ......................................................... 607
Hideaki Kimata, Masaki Kitahara, Kazato Kamikura, Yoshiyuki Yashima

A Fast Full Search Algorithm for Multiple Reference Images ........... 615
Hyun-So Kang, Si-Woong Lee, Kook-Yeol Yoo, Jae-Gark Choi

Preprocessing of Depth and Color Information for Layered Depth Image Coding ................................................................. 622
Seung-Uk Yoon, Sung-Yeol Kim, Yo-Sung Ho

Selective Motion Estimation for Fast Video Encoding ..................... 630
Sun Young Lee, Yong Ho Cho, Whoiyl Kim, Euee S. Jang

An Efficient VLSI Architecture of the Sample Interpolation for MPEG-4 Advanced Simple Profile ....................................... 639
Lei Deng, Ming-Zeng Hu, Zhen-Zhou Ji

Performance Improvement of Vector Quantization by Using Threshold .... 647
Hung-Yi Chang, Pi-Chung Wang, Rong-Chang Chen, Shuo-Cheng Hu

An Efficient Object Based Personal Video Coding System ............... 655
Cataldo Guaragnella, Tiziana D’ Orazio

Multiview Video Coding Based on Global Motion Model ............... 665
Xun Guo, Qingming Huang

A Novel Rate-Distortion Model for Leaky Prediction Based FGS Video Coding ................................................................. 673
Jianhua Wu, Jianfei Cai
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>JPEG Quantization Table Design for Photos with Face in Wireless Handset</td>
<td>681</td>
</tr>
<tr>
<td>Gu-Min Jeong, Jun-Ho Kang, Yong-Su Mun, Doo-Hee Jung</td>
<td></td>
</tr>
<tr>
<td>Effective Drift Reduction Technique for Reduced Bit-Rate Video Adaptation</td>
<td>689</td>
</tr>
<tr>
<td>June-Sok Lee, Goo-Rak Kwon, Jae-Won Kim, Jae-Yong Lee, Sung-Jea Ko</td>
<td></td>
</tr>
<tr>
<td>On Implementation of a Scalable Wallet-Size Cluster Computing System for Multimedia Applications</td>
<td>697</td>
</tr>
<tr>
<td>Liang-Teh Lee, Kuan-Ching Li, Chao-Tang Yang, Chia-Ying Tseng, Kang-Yuan Liu, Chih-Hung Hung</td>
<td></td>
</tr>
<tr>
<td>An Adaptive LS-Based Motion Prediction Algorithm for Video Coding</td>
<td>705</td>
</tr>
<tr>
<td>Min-Cheol Hong, Myung-Sik Yoo, Ji-Hee Kim</td>
<td></td>
</tr>
<tr>
<td>Embedded Packetization Framework for Layered Multiple Description Coding</td>
<td>713</td>
</tr>
<tr>
<td>Longshe Huo, Qingming Huang, Jianguo Xie</td>
<td></td>
</tr>
<tr>
<td><strong>Watermarking (III)</strong></td>
<td></td>
</tr>
<tr>
<td>Semi-fragile Watermarking Based on Dither Modulation</td>
<td>721</td>
</tr>
<tr>
<td>Jongweon Kim, Youngbae Byun, Jonguk Choi</td>
<td></td>
</tr>
<tr>
<td>An Adaptive Steganography for Index-Based Images Using Codeword Grouping</td>
<td>731</td>
</tr>
<tr>
<td>Chin-Chen Chang, Piyu Tsai, Min-Hui Lin</td>
<td></td>
</tr>
<tr>
<td>DH-LZW: Lossless Data Hiding Method in LZW Compression</td>
<td>739</td>
</tr>
<tr>
<td>Heuk Jae Shim, Byeungwoo Jeon</td>
<td></td>
</tr>
<tr>
<td>Blind Image Data Hiding in the Wavelet Domain</td>
<td>747</td>
</tr>
<tr>
<td>Mohsen Ashourian, Yo-Sung Ho</td>
<td></td>
</tr>
<tr>
<td>Image Watermarking Capacity Analysis Using Hopfield Neural Network</td>
<td>755</td>
</tr>
<tr>
<td>Fan Zhang, Hongbin Zhang</td>
<td></td>
</tr>
<tr>
<td>Efficient Algorithms in Determining JPEG-Effective Watermark Coefficients</td>
<td>763</td>
</tr>
<tr>
<td>Chih-Wei Tang, Hsueh-Ming Hang</td>
<td></td>
</tr>
<tr>
<td>A Fragile Watermarking Based on Knapsack Problem</td>
<td>771</td>
</tr>
<tr>
<td>Hui Han, HongXun Yao, ShaoHui Liu, Yan Liu</td>
<td></td>
</tr>
<tr>
<td><strong>Author Index</strong></td>
<td>777</td>
</tr>
</tbody>
</table>
Advances in Multimedia Information Processing - PCM 2004
Aizawa, K.; Nakamura, Y.; Satoh, S. (Eds.)
2005, XXXVI, 667 p., Softcover
ISBN: 978-3-540-23974-1