Kiyoharu Aizawa Yuichi Nakamura
Shin'ichi Satoh (Eds.)

Advances in Multimedia Information Processing – PCM 2004

5th Pacific Rim Conference on Multimedia
Tokyo, Japan, November 30 – December 3, 2004
Proceedings, Part I

Springer

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-Shiung Ker, Yau-Hwang Kuo

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

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, Xiaoqing Ding, Xian-Sheng Hua

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

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

Representation of Clipart Image Using Shape and Color with Spatial Relationship 165
Jeong-Hyun Cho, Chang-Gyu Choi, Yongseok Chang, Sung-Ho Kim

Automatic Categorization for WWW Images with Applications for Retrieval Navigation 174
Koji Nakahira, Satoshi Ueno, Kiyoharu Aizawa

Region-Based Image Retrieval with Scale and Orientation Invariant Features 182
Surong Wang, Liang-Tien Chia, Deepu Rajan

SOM-Based Sample Learning Algorithm for Relevance Feedback in CBIR 190
Tatsunori Nishikawa, Takahiko Horiuchi, Hiroaki Kotera

Classification of Digital Photos Taken by Photographers or Home Users 198
Hanghang Tong, Mingjing Li, Hong-Jiang Zhang, Jingrui He, Changshui Zhang

Image Analysis (I)

Background Modeling Using Phase Space for Day and Night Video Surveillance Systems 206
Yu-Ming Liang, Arthur Chun-Chieh Shih, Hsiao-Rong Tyan, Hong-Yuan Mark Liao

Sequential Robust Direct Motion Estimation with Equal Projective Basis 214
Jong-Eun Ha, Dong-Joong Kang, Muh-Ho Jeong

Generation of 3D Urban Model Using Cooperative Hybrid Stereo Matching 222
Dong-Min Woo, Howard Schultz, Young-Kee Jung, Kyu-Won Lee

Segmentation of Interest Objects Using the Hierarchical Mesh Structure 230
Dong-Keun Lim, Yo-Sung Ho

A Rapid Scheme for Slow-Motion Replay Segment Detection 239
Wei-Hong Chuang, Dun-Yu Hsiao, Soo-Chang Pei, Homer Chen

Recognition of Very Low-Resolution Characters from Motion Images Captured by a Portable Digital Camera 247
Shinsuke Yanadume, Yoshito Mekada, Ichiro Ide, Hiroshi Murase

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 Multiresolution 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, Yung-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, Weiying Ma

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. Ampornaramveth, 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 Tjahyadi

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, Kiyoung 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
Hyunju 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, Kôiti 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 Itou, 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, Katsuhiko Kaji, Daisuke Yamamoto, Hironori 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-myoung 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