

LNCS 4352

Tat-Jen Cham
Jianfei Cai
Chitra Dorai
Deepu Rajan
Tat-Seng Chua
Liang-Tien Chia (Eds.)

Advances in Multimedia Modeling

13th International Multimedia Modeling Conference, MMM 2007
Singapore, January 2007
Proceedings, Part II

2
Part II



Springer

Tat-Jen Cham Jianfei Cai
Chitra Dorai Deepu Rajan
Tat-Seng Chua Liang-Tien Chia (Eds.)

Advances in Multimedia Modeling

13th International Multimedia Modeling Conference, MMM 2007
Singapore, January 9-12, 2007
Proceedings, Part II



Volume Editors

Tat-Jen Cham

Jianfei Cai

Deepu Rajan

Liang-Tien Chia

Nanyang Technological University, School of Computer Engineering

Block N4, Nanyang Avenue, Singapore 639798

E-mail: {astjcham,asjfcai,asdrajan,aslchia}@ntu.edu.sg

Chitra Dorai

IBM T.J. Watson Research Center

Yorktown Heights, NY 10598, USA

E-mail: dorai@watson.ibm.com

Tat-Seng Chua

National University of Singapore

School of Computing, Department of Computer Science

Singapore

E-mail: chuats@comp.nus.edu.sg

Library of Congress Control Number: 2006939133

CR Subject Classification (1998): H.5.1, H.5, I.4, H.2.4, I.3, H.3-4, E.4

LNCS Sublibrary: SL 3 – Information Systems and Application, incl. Internet/Web and HCI

ISSN 0302-9743

ISBN-10 3-540-69428-5 Springer Berlin Heidelberg New York

ISBN-13 978-3-540-69428-1 Springer Berlin Heidelberg New York

This work is subject to copyright. All rights are reserved, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, re-use of illustrations, recitation, broadcasting, reproduction on microfilms or in any other way, and storage in data banks. Duplication of this publication or parts thereof is permitted only under the provisions of the German Copyright Law of September 9, 1965, in its current version, and permission for use must always be obtained from Springer. Violations are liable to prosecution under the German Copyright Law.

Springer is a part of Springer Science+Business Media

springer.com

© Springer-Verlag Berlin Heidelberg 2007

Printed in Germany

Typesetting: Camera-ready by author, data conversion by Scientific Publishing Services, Chennai, India
Printed on acid-free paper SPIN: 11968153 06/3142 5 4 3 2 1 0

Commenced Publication in 1973

Founding and Former Series Editors:

Gerhard Goos, Juris Hartmanis, and Jan van Leeuwen

Editorial Board

David Hutchison

Lancaster University, UK

Takeo Kanade

Carnegie Mellon University, Pittsburgh, PA, USA

Josef Kittler

University of Surrey, Guildford, UK

Jon M. Kleinberg

Cornell University, Ithaca, NY, USA

Friedemann Mattern

ETH Zurich, Switzerland

John C. Mitchell

Stanford University, CA, USA

Moni Naor

Weizmann Institute of Science, Rehovot, Israel

Oscar Nierstrasz

University of Bern, Switzerland

C. Pandu Rangan

Indian Institute of Technology, Madras, India

Bernhard Steffen

University of Dortmund, Germany

Madhu Sudan

Massachusetts Institute of Technology, MA, USA

Demetri Terzopoulos

University of California, Los Angeles, CA, USA

Doug Tygar

University of California, Berkeley, CA, USA

Moshe Y. Vardi

Rice University, Houston, TX, USA

Gerhard Weikum

Max-Planck Institute of Computer Science, Saarbruecken, Germany

Preface

The 13th International Multimedia Modeling Conference (MMM) was held in Singapore on January 9–12, 2007, organized by the School of Computer Engineering, Nanyang Technological University (NTU). The conference venue was the Nanyang Executive Centre, located within NTU’s 200 hectare Jurong campus in the west of Singapore, and it also served as the main conference accommodation.

The main technical sessions were held on January 10–12, 2007, comprising 2 keynote talks, 18 oral presentation sessions in 2 parallel tracks, and 2 poster sessions. A wide range of topics was covered in the conference, including multimedia content analysis (retrieval, annotation, learning semantic concepts), computer vision/graphics (tracking, registration, shape modeling), multimedia networking (coding, peer-to-peer systems, adaptation), multimedia access (databases, security) and human–computer interaction (user interfaces, augmented reality).

This year a bumper crop of 392 paper submissions were received for publication in the main conference. In order to achieve our goal of instantiating a high-quality review process for the conference, a large and motivated Technical Program Committee had to be formed. Thankfully, we were able to rely on the help of many committed senior researchers and eventually a review structure was created comprising 18 Area Chairs, 152 Program Committee members and 36 additional reviewers. The review process was rigorous and double blind, with each paper assigned to three to four reviewers, and further managed by an Area Chair who provided additional input and recommendations to the Program Chairs. In addition, there was collaboration with other conferences with overlapping review periods to avoid accepting papers which were submitted simultaneously to different conferences. Through the conscientious efforts of the reviewers, all submissions received at least two reviews, while over 97% of submissions received at least three to four reviews. Subsequently, all papers were considered carefully, with significant deliberation over borderline papers. Eventually, only 72 papers were accepted for oral presentation and 51 papers accepted for poster presentation, resulting in a competitive acceptance rate of 31.4%. The only distinguishing difference between the oral and poster papers was the mode of presentation – all accepted papers were considered full papers and allocated the same number of pages. Additionally, there were two paper awards given out at this conference: the Best Paper Award, and the Best Student Paper Award.

Outside of the main technical sessions, there were also four special sessions on Networked Graphics Applications (NGA), Services and the Assurance in Multimedia Mobile Information Systems (SAMM), Networked Multimedia Systems and Applications Focusing on Reliable and Flexible Delivery for Integrated Multimedia (NMS) and Ubiquitous Multimedia Service (UMS). The paper review for these special sessions was handled separately by different organizers and Program Committees, and accepted papers were presented on January 9, 2007.

There was also a conference banquet on January 11, 2007, which featured a dinner boat cruise along Singapore's harbor front on the Imperial Cheng Ho.

We are heavily indebted to many individuals for their significant contribution. In particular, Linda Ang was very helpful in maintaining the Web-based review management system and solving technical crises almost instantly. Su-Ming Koh was crucial in creating, maintaining and handling all registration-related matters effectively and efficiently. Poo-Hua Chua promptly handled all matters related to the main conference Web site. Hwee-May Oh consistently kept the Organizing Committee in tow by checking and monitoring the action plans before and after every meeting. We thank the MMM Steering Committee for their invaluable input and guidance in crucial decisions. We would like to express our deepest gratitude to the rest of the Organizing Committee: Industrial Track Chair Chang-Sheng Xu, Local Arrangements Chairs Wooi Boon Goh and Kin-Choong Yow, Publicity and Sponsorship Chairs Sabu Emmanuel and Kap-Luk Chan, and Workshop Chairs Chiew Tong Lau and Fang Li. We are also most sincerely appreciative of the hard work put in by the Area Chairs and members of the Technical Program Committee, whose detailed reviews under time pressure were instrumental in making this a high-quality conference.

We would like to thank the Lee Foundation and PREMIA for their generous sponsorship, as well as help from the School of Computing, National University of Singapore, ACM SIGMM, and the Singapore Tourism Board. Finally, this conference would not have been possible without strong and unwavering support from NTU's Centre for Multimedia & Network Technology (CeMNet).

January 2007

Tat-Jen Cham
Jianfei Cai
Chitra Dorai
Deepu Rajan
Tat-Seng Chua
Liang-Tien Chia

Organization

Organizing Committee

General Co-chairs:	Tat-Seng Chua (National University of Singapore, Singapore) Liang-Tien Chia (Nanyang Technological University, Singapore)
Program Co-chairs:	Tat-Jen Cham (Nanyang Technological University, Singapore) Jianfei Cai (Nanyang Technological University, Singapore)
Industrial Track Chair:	Chitra Dorai (IBM T.J. Watson Research Center, New York)
Workshop/Tutorials Co-chairs:	Changsheng Xu (Institute for Infocomm Research, Singapore) Chiew Tong Lau (Nanyang Technological University, Singapore)
Publications Chair:	Fang Li (Nanyang Technological University, Singapore)
Local Arrangements Co-Chairs:	Deepu Rajan (Nanyang Technological University, Singapore) Wooi Boon Goh (Nanyang Technological University, Singapore)
Publicity and Sponsorship Co-chairs:	Kin-Choong Yow (Nanyang Technological University, Singapore) Sabu Emmanuel (Nanyang Technological University, Singapore)
Registration:	Sabu Emmanuel (Nanyang Technological University, Singapore)
Webmaster:	Kap-Luk Chan (Nanyang Technological University, Singapore)
Secretary:	Su-Ming Koh Linda Ang Poo-Hua Chua Hwee-May Oh

Steering Committee

Yi-Ping Phoebe Chen (Deakin University , Australia)	Wei-Ying Ma (Microsoft Research Asia, China)
Tat-Seng Chua(National University of Singapore, Singapore)	Nadia Magnenat-Thalmann (University of Geneva , Switzerland)
Tosiyasu L. Kunii (Kanazawa Institute of Technology, Japan)	Patrick Senac (Ensica, France)

Program Committee

Area Chairs

Edward Chang	Wei Tsang Ooi
Lap-Pui Chau	Silvia Pfeiffer
Shu-Ching Chen	Mei-Ling Shyu
Ajay Divakaran	Qibin Sun
Alan Hanjalic	Daniel Thalmann
Mohan Kankanhalli	Marcel Worring
Zhengguo Li	Jiankang Wu
Chiawen Lin	Changsheng Xu
Wolfgang Müller-Wittig	Roger Zimmerman

Members

Lalitha Agnihotri	Sheng Gao	Chung-Sheng Li
Terumasa Aoki	John M. Gauch	He Li
Pradeep Kumar Atrey	Yu Ge	Huiqi Li
Noboru Babaguchi	Enrico Gobbetti	Liyuan Li
Selim Balcisoy	Romulus Grigoras	Mingjing Li
Qiu Bo	William I. Grosky	Qing Li
Shen Bo	Junzhong Gu	Te Li
Ronan Boulic	Xiaohui Gu	Xuelong Li
Djeraba Chabane	Zhenghui Gu	Ying Li
Lekha Chaisorn	Mario Gutierrez	Rainer Lienhart
Ee-Chien Chang	Jiro Gyoba	Joo-Hwee Lim
Kai Chen	Daniel Haffner	Jian-Liang Lin
Lei Chen	Xian-Sheng Hua	Weisi Lin
Mei-Juan Chen	Haibin Huang	Karen Liu
Shoupu Chen	Qingming Huang	Tiecheng Liu
Xilin Chen	Weimin Huang	Yang Liu
Yi-Shin Chen	Zhiyong Huang	Ying Liu
Shao-Yi Chien	Benoit Huet	Alexader Loui
Eng Siong Chng	Andres Iglesias	Kok-Lim Low
Hao-hua Chu	Horace Ip	Guojun Lu
Jen-Yao Chung	Xing Jin	Hanqing Lu
Pablo de Heras	Xuan Jing	Zhongkang Lu
Ciechomski	James Joshi	Hongli Luo
Serhan Dagtas	Marcelo Kallmann	Jian-Guang Luo
Ravindra Dastikop	Li-Wei Kang	Jiebo Luo
Michel Diaz	Ahmed Karmouch	Jianhua Ma
Zoran Dimitrijevic	Pavel Korshunov	Namunu Maddage
LingYu Duan	Jose Lay	Nadia Magnenat-
Kun Fu	Clement Leung	Thalmann

Enrico Magli	Guus Schreiber	Yu Wang
Stephane Marchand-Maillet	Nicu Sebe	Jongwook Woo
Bernard Merialdo	Ho Kim Seon	Yi Wu
Kazunori Miyata	Ishwar Sethi	Yi-Leh Wu
Soraia Raupp Musse	Timothy Shih	Lexing Xie
P.J. Narayanan	P. Shivakumara	Ruiqin Xiong
Luciana Nedel	Haiyan Shu	Ziyou Xiong
Chong Wah Ngo	Alan Smeaton	Xiangyang Xue
Noel O'Connor	Cees Snoek	Xiaokang Yang
Ee Ping Ong	Luiz Fernando Gomes Soares	Susu Yao
Vincent Oria	Yuqing Song	Kim-Hui Yap
Pietro Pala	Alexei Sourin	Chai Kiat Yeo
Feng Pan	Yeping Su	Rongshan Yu
Nilesh Patel	Lifeng Sun	Xinguo Yu
Wen-Hsiao Peng	Hari Sundaram	Chengcui Zhang
Julien Pettre	Jo Yew Tham	Haihong Zhang
B. Prabhakaran	Yu-Kuang Tu	Lei Zhang
Regunathan Radhakrishnan	Jean-Marc Valin	Zhongfei Zhang
Kalpathi Ramakrishnan	Svetna Venkatesh	Jinghong Zheng
Lloyd Rutledge	Frederic Vexo	Xiaofang Zhou
Shin'ichi Satoh	Kongwah Wan	Guangyu Zhu
Dieter Schmalstieg	Jinjun Wang	Yongwei Zhu
	Xingwei Wang	

Additional Reviewers

Marco Agus	Michiel Hildebrand	Simon Moncrieff
Alia Amin	Keith Jacoby	Manuel Menezes de Oliveira Neto
Michael Blighe	Minseok Jang	Ciaran O'Conaire
Rui Cai	Xiaoxi Jiang	Marcelo Soares Pimenta
Kuan-Ta Chen	Saubhagya Ram Joshi	Dimitris Protopsaltou
Songqing Chen	Mustafa Kasap	Tele Tan
Rodrigo Mendes Costa	Andrew Kinane	Ba Tu Truong
Carlos Augusto Dietrich	Duy-Dinh Le	Changhu Wang
JL Dugelay	Bart Lehane	Jian Yao
Arjan Egges	Dongyu Liu	Ruofei Zhang
Eric Galmar	Mentar Mahmudi	
Stephane Garchery	Joanna Marguier	
Zhen Guo	Jean Martinet	

Lecture Notes in Computer Science

For information about Vols. 1–4271

please contact your bookseller or Springer

- Vol. 4377: M. Abe (Ed.), Topics in Cryptology – CT-RSA 2007. XI, 403 pages. 2006.
- Vol. 4369: M. Umeda, A. Wolf, O. Bartenstein, U. Geske, D. Seipel, O. Takata (Eds.), Declarative Programming for Knowledge Management. X, 229 pages. 2006. (Sublibrary LNAI).
- Vol. 4368: T. Erlebach, C. Kaklamanis (Eds.), Approximation and Online Algorithms. X, 345 pages. 2006.
- Vol. 4367: K. De Bosschere, D. Kaeli, P. Stenström, D. Whalley, T. Ungerer (Eds.), High Performance Embedded Architectures and Compilers. XI, 307 pages. 2006.
- Vol. 4361: H.J. Hoogeboom, G. Păun, G. Rozenberg, A. Salomaa (Eds.), Membrane Computing. IX, 555 pages. 2006.
- Vol. 4357: L. Buttyán, V. Gligor, D. Westhoff (Eds.), Security and Privacy in Ad-hoc and Sensor Networks. X, 193 pages. 2006.
- Vol. 4355: J. Julliand, O. Kouchnarenko (Eds.), B 2007: Formal Specification and Development in B. XIII, 293 pages. 2006.
- Vol. 4354: M. Hanus (Ed.), Practical Aspects of Declarative Languages. X, 335 pages. 2006.
- Vol. 4353: T. Schwentick, D. Suciu (Eds.), Database Theory – ICDT 2007. XI, 419 pages. 2006.
- Vol. 4352: T.-J. Cham, J. Cai, C. Dorai, D. Rajan, T.-S. Chua, L.-T. Chia (Eds.), Advances in Multimedia Modeling, Part II. XVIII, 743 pages. 2007.
- Vol. 4351: T.-J. Cham, J. Cai, C. Dorai, D. Rajan, T.-S. Chua, L.-T. Chia (Eds.), Advances in Multimedia Modeling, Part I. XIX, 797 pages. 2007.
- Vol. 4348: S.T. Taft, R.A. Duff, R.L. Brukardt, E. Ploedereder, P. Leroy (Eds.), Ada 2005 Reference Manual. XXII, 765 pages. 2006.
- Vol. 4347: J. Lopez (Ed.), Critical Information Infrastructures Security. X, 286 pages. 2006.
- Vol. 4345: N. Maglavera, I. Chouvarda, V. Koutkias, R. Brause (Eds.), Biological and Medical Data Analysis. XIII, 496 pages. 2006. (Sublibrary LNBI).
- Vol. 4344: V. Gruhn, F. Oquendo (Eds.), Software Architecture. X, 245 pages. 2006.
- Vol. 4342: H. de Swart, E. Orłowska, G. Schmidt, M. Roubens (Eds.), Theory and Applications of Relational Structures as Knowledge Instruments II. X, 373 pages. 2006. (Sublibrary LNAI).
- Vol. 4341: P.Q. Nguyen (Ed.), Progress in Cryptology – VIETCRYPT 2006. XI, 385 pages. 2006.
- Vol. 4340: R. Prodan, T. Fahringer, Grid Computing. XXIII, 317 pages. 2006.
- Vol. 4339: E. Ayguadé, G. Baumgartner, J. Ramanujam, P. Sadayappan (Eds.), Languages and Compilers for Parallel Computing. XI, 476 pages. 2006.
- Vol. 4338: P. Kalra, S. Peleg (Eds.), Computer Vision, Graphics and Image Processing. XV, 965 pages. 2006.
- Vol. 4337: S. Arun-Kumar, N. Garg (Eds.), FSTTCS 2006: Foundations of Software Technology and Theoretical Computer Science. XIII, 430 pages. 2006.
- Vol. 4334: B. Beckert, R. Hähnle, P.H. Schmitt (Eds.), Verification of Object-Oriented Software. XXIX, 658 pages. 2006. (Sublibrary LNAI).
- Vol. 4333: U. Reimer, D. Karagiannis (Eds.), Practical Aspects of Knowledge Management. XII, 338 pages. 2006. (Sublibrary LNAI).
- Vol. 4332: A. Bagchi, V. Atluri (Eds.), Information Systems Security. XV, 382 pages. 2006.
- Vol. 4331: G. Min, B. Di Martino, L.T. Yang, M. Guo, G. Ruenger (Eds.), Frontiers of High Performance Computing and Networking – ISPA 2006 Workshops. XXXVII, 1141 pages. 2006.
- Vol. 4330: M. Guo, L.T. Yang, B. Di Martino, H.P. Zima, J. Dongarra, F. Tang (Eds.), Parallel and Distributed Processing and Applications. XVIII, 953 pages. 2006.
- Vol. 4329: R. Barua, T. Lange (Eds.), Progress in Cryptology - INDOCRYPT 2006. X, 454 pages. 2006.
- Vol. 4328: D. Penkler, M. Reitenspies, F. Tam (Eds.), Service Availability. X, 289 pages. 2006.
- Vol. 4327: M. Baldoni, U. Endriss (Eds.), Declarative Agent Languages and Technologies IV. VIII, 257 pages. 2006. (Sublibrary LNAI).
- Vol. 4326: S. Göbel, R. Malkewitz, I. Iurgel (Eds.), Technologies for Interactive Digital Storytelling and Entertainment. X, 384 pages. 2006.
- Vol. 4325: J. Cao, I. Stojmenovic, X. Jia, S.K. Das (Eds.), Mobile Ad-hoc and Sensor Networks. XIX, 887 pages. 2006.
- Vol. 4320: R. Gotzhein, R. Reed (Eds.), System Analysis and Modeling: Language Profiles. X, 229 pages. 2006.
- Vol. 4319: L.-W. Chang, W.-N. Lie (Eds.), Advances in Image and Video Technology. XXVI, 1347 pages. 2006.
- Vol. 4318: H. Lipmaa, M. Yung, D. Lin (Eds.), Information Security and Cryptology. XI, 305 pages. 2006.
- Vol. 4317: S.K. Madria, K.T. Claypool, R. Kannan, P. Uppuluri, M.M. Gore (Eds.), Distributed Computing and Internet Technology. XIX, 466 pages. 2006.
- Vol. 4316: M.M. Dalkilic, S. Kim, J. Yang (Eds.), Data Mining and Bioinformatics. VIII, 197 pages. 2006. (Sublibrary LNBI).

- Vol. 4313: T. Margaria, B. Steffen (Eds.), Leveraging Applications of Formal Methods. IX, 197 pages. 2006.
- Vol. 4312: S. Sugimoto, J. Hunter, A. Rauber, A. Morishima (Eds.), Digital Libraries: Achievements, Challenges and Opportunities. XVIII, 571 pages. 2006.
- Vol. 4311: K. Cho, P. Jacquet (Eds.), Technologies for Advanced Heterogeneous Networks II. XI, 253 pages. 2006.
- Vol. 4309: P. Inverardi, M. Jazayeri (Eds.), Software Engineering Education in the Modern Age. VIII, 207 pages. 2006.
- Vol. 4308: S. Chaudhuri, S.R. Das, H.S. Paul, S. Tirthapura (Eds.), Distributed Computing and Networking. XIX, 608 pages. 2006.
- Vol. 4307: P. Ning, S. Qing, N. Li (Eds.), Information and Communications Security. XIV, 558 pages. 2006.
- Vol. 4306: Y. Avrithis, Y. Kompatiari, S. Staab, N.E. O'Connor (Eds.), Semantic Multimedia. XII, 241 pages. 2006.
- Vol. 4305: A.A. Shvartsman (Ed.), Principles of Distributed Systems. XIII, 441 pages. 2006.
- Vol. 4304: A. Sattar, B.-h. Kang (Eds.), AI 2006: Advances in Artificial Intelligence. XXVII, 1303 pages. 2006. (Sublibrary LNAI).
- Vol. 4303: A. Hoffmann, B.-h. Kang, D. Richards, S. Tsumoto (Eds.), Advances in Knowledge Acquisition and Management. XI, 259 pages. 2006. (Sublibrary LNAI).
- Vol. 4302: J. Domingo-Ferrer, L. Franconi (Eds.), Privacy in Statistical Databases. XI, 383 pages. 2006.
- Vol. 4301: D. Pointcheval, Y. Mu, K. Chen (Eds.), Cryptology and Network Security. XIII, 381 pages. 2006.
- Vol. 4300: Y.Q. Shi (Ed.), Transactions on Data Hiding and Multimedia Security I. IX, 139 pages. 2006.
- Vol. 4299: S. Renals, S. Bengio, J.G. Fiscus (Eds.), Machine Learning for Multimodal Interaction. XII, 470 pages. 2006.
- Vol. 4297: Y. Robert, M. Parashar, R. Badrinath, V.K. Prasanna (Eds.), High Performance Computing - HiPC 2006. XXIV, 642 pages. 2006.
- Vol. 4296: M.S. Rhee, B. Lee (Eds.), Information Security and Cryptology – ICISC 2006. XIII, 358 pages. 2006.
- Vol. 4295: J.D. Carswell, T. Tezuka (Eds.), Web and Wireless Geographical Information Systems. XI, 269 pages. 2006.
- Vol. 4294: A. Dan, W. Lamersdorf (Eds.), Service-Oriented Computing – ICSOC 2006. XIX, 653 pages. 2006.
- Vol. 4293: A. Gelbukh, C.A. Reyes-Garcia (Eds.), MICAI 2006: Advances in Artificial Intelligence. XXVIII, 1232 pages. 2006. (Sublibrary LNAI).
- Vol. 4292: G. Bebis, R. Boyle, B. Parvin, D. Koracin, P. Remagnino, A. Nefian, G. Meenakshisundaram, V. Pasucci, J. Zara, J. Molineros, H. Theisel, T. Malzbender (Eds.), Advances in Visual Computing, Part II. XXXII, 906 pages. 2006.
- Vol. 4291: G. Bebis, R. Boyle, B. Parvin, D. Koracin, P. Remagnino, A. Nefian, G. Meenakshisundaram, V. Pasucci, J. Zara, J. Molineros, H. Theisel, T. Malzbender (Eds.), Advances in Visual Computing, Part I. XXXI, 916 pages. 2006.
- Vol. 4290: M. van Steen, M. Henning (Eds.), Middleware 2006. XIII, 425 pages. 2006.
- Vol. 4289: M. Ackermann, B. Berendt, M. Grobelnik, A. Hotho, D. Mladenič, G. Semeraro, M. Spiliopoulou, G. Stumme, V. Svatek, M. van Someren (Eds.), Semantics, Web and Mining. X, 197 pages. 2006. (Sublibrary LNAI).
- Vol. 4288: T. Asano (Ed.), Algorithms and Computation. XX, 766 pages. 2006.
- Vol. 4287: C. Mao, T. Yokomori (Eds.), DNA Computing. XII, 440 pages. 2006.
- Vol. 4286: P. Spirakis, M. Mavronicolas, S. Kontogiannis (Eds.), Internet and Network Economics. XI, 401 pages. 2006.
- Vol. 4285: Y. Matsumoto, R. Sproat, K.-F. Wong, M. Zhang (Eds.), Computer Processing of Oriental Languages. XVII, 544 pages. 2006. (Sublibrary LNAI).
- Vol. 4284: X. Lai, K. Chen (Eds.), Advances in Cryptology – ASIACRYPT 2006. XIV, 468 pages. 2006.
- Vol. 4283: Y.Q. Shi, B. Jeon (Eds.), Digital Watermarking. XII, 474 pages. 2006.
- Vol. 4282: Z. Pan, A. Cheok, M. Haller, R.W.H. Lau, H. Saito, R. Liang (Eds.), Advances in Artificial Reality and Tele-Existence. XXIII, 1347 pages. 2006.
- Vol. 4281: K. Barkaoui, A. Cavalcanti, A. Cerone (Eds.), Theoretical Aspects of Computing - ICTAC 2006. XV, 371 pages. 2006.
- Vol. 4280: A.K. Datta, M. Gradinariu (Eds.), Stabilization, Safety, and Security of Distributed Systems. XVII, 590 pages. 2006.
- Vol. 4279: N. Kobayashi (Ed.), Programming Languages and Systems. XI, 423 pages. 2006.
- Vol. 4278: R. Meersman, Z. Tari, P. Herrero (Eds.), On the Move to Meaningful Internet Systems 2006: OTM 2006 Workshops, Part II. XLV, 1004 pages. 2006.
- Vol. 4277: R. Meersman, Z. Tari, P. Herrero (Eds.), On the Move to Meaningful Internet Systems 2006: OTM 2006 Workshops, Part I. XLV, 1009 pages. 2006.
- Vol. 4276: R. Meersman, Z. Tari (Eds.), On the Move to Meaningful Internet Systems 2006: CoopIS, DOA, GADA, and ODBASE, Part II. XXXII, 752 pages. 2006.
- Vol. 4275: R. Meersman, Z. Tari (Eds.), On the Move to Meaningful Internet Systems 2006: CoopIS, DOA, GADA, and ODBASE, Part I. XXXI, 1115 pages. 2006.
- Vol. 4274: Q. Huo, B. Ma, E.-S. Chng, H. Li (Eds.), Chinese Spoken Language Processing. XXIV, 805 pages. 2006. (Sublibrary LNAI).
- Vol. 4273: I. Cruz, S. Decker, D. Allemand, C. Preist, D. Schwabe, P. Mika, M. Uschold, L. Arroyo (Eds.), The Semantic Web - ISWC 2006. XXIV, 1001 pages. 2006.
- Vol. 4272: P. Havinga, M. Lijding, N. Meratnia, M. Wegdam (Eds.), Smart Sensing and Context. XI, 267 pages. 2006.

Table of Contents

Multimedia Signal Processing and Communications I

Real-Time Streaming Audio Codecs for QoS Benchmarking Purposes	1
<i>Luisa M. Regueras, María Jesús Verdú, and Rafael Mompó</i>	
Exploiting Video Stream Similarity for Energy-Efficient Decoding	11
<i>Juan Hamers, Lieven Eeckhout, and Koen De Bosschere</i>	
Optimization of System Performance for DVC Applications with Energy Constraints over Ad Hoc Networks	23
<i>Lifeng Sun, Ke Liang, Shiqiang Yang, and Yuzhuo Zhong</i>	
Distributed Video Coding with Trellis Coded Quantization	32
<i>Qiwei Liu, Houqiang Li, Yan Lu, and Feng Wu</i>	
An Efficient VLSI Architecture for Full-Search Variable Block Size Motion Estimation in H.264/AVC	41
<i>Seung-Man Pyen, Kyeong-Yuk Min, and Jong-Wha Chong</i>	
A Secure and Robust Wavelet-Based Hashing Scheme for Image Authentication	51
<i>Fawad Ahmed and M.Y. Siyal</i>	

Event Detection

Automatic TV Logo Detection, Tracking and Removal in Broadcast Video	63
<i>Jinqiao Wang, Qingshan Liu, Lingyu Duan, Hanqing Lu, and Changsheng Xu</i>	
Automatic Detection and Recognition of Athlete Actions in Diving Video	73
<i>Haojie Li, Si Wu, Shan Ba, Shouxun Lin, and Yongdong Zhang</i>	
Event Detection Models Using 2d-BN and CRFs	83
<i>Tao Wang, Jianguo Li, Wei Hu, Xiaofeng Tong, Yimin Zhang, and Carole Dulong</i>	
Video Histogram: A Novel Video Signature for Efficient Web Video Duplicate Detection	94
<i>Lu Liu, Wei Lai, Xian-Sheng Hua, and Shi-Qiang Yang</i>	

Multimedia over P2P

VOD Multicast Using CIWP and P2P Partial Stream Transfer	104
<i>Kwang-Sik Shin, Wan-Oh Yoon, Jin-Ha Jung, and Sang-Bang Choi</i>	
Multimedia Service Composition for Context-Aware Mobile Computing	115
<i>Eunjeong Park and Heonshik Shin</i>	
Characterizing User Behavior Model to Evaluate Hard Cache in Peer-to-Peer Based Video-on-Demand Service	125
<i>Jian-Guang Luo, Yun Tang, Meng Zhang, and Shi-Qiang Yang</i>	
Cooperative Caching for Peer-Assisted Video Distribution	135
<i>Pan-Hong Guo, Yang Yang, and Hui Guo</i>	

Content II

Metadata Management, Reuse, Inference and Propagation in a Collection-Oriented Metadata Framework for Digital Images	145
<i>William Ku, Mohan S. Kankanhalli, and Joo-Hwee Lim</i>	
Confidence Building Among Correlated Streams in Multimedia Surveillance Systems	155
<i>Pradeep K. Atrey, Mohan S. Kankanhalli, and Abdulmotaleb El Saddik</i>	
Boosting Cross-Media Retrieval by Learning with Positive and Negative Examples	165
<i>Yueteng Zhuang and Yi Yang</i>	
Searching the Video: An Efficient Indexing Method for Video Retrieval in Peer to Peer Network	175
<i>Ming-Ho Hsiao, Wen-Jiin Tsai, and Suh-Yin Lee</i>	
Integrating Semantic Templates with Decision Tree for Image Semantic Learning	185
<i>Ying Liu, Dengsheng Zhang, Guojun Lu, and Ah-Hwee Tan</i>	
Neural Network Combining Classifier Based on Dempster-Shafer Theory for Semantic Indexing in Video Content	196
<i>Rachid Benmokhtar and Benoit Huet</i>	
Efficient Search with Changing Similarity Measures on Large Multimedia Datasets	206
<i>Nataraj Jammalamadaka, Vikram Pudi, and C.V. Jawahar</i>	
MuSQL: A Music Structured Query Language	216
<i>Chaokun Wang, Jianmin Wang, Jianzhong Li, Jia-Guang Sun, and Shengfei Shi</i>	

Applications II

Hardware Accelerated Skin Deformation for Animated Crowds..... <i>Golam Ashraf and Junyu Zhou</i>	226
Multimedia Web Services for an Object Tracking and Highlighting Application	238
<i>Feng Lu and Liang-Tien Chia</i>	
A Novel Melody Line Identification Algorithm for Polyphonic MIDI Music	248
<i>Sudha Velusamy, Balaji Thoskahnna, and K.R. Ramakrishnan</i>	
Markerless Augmented Reality Using a Robust Point Transferring Method	258
<i>S.K. Ong, M.L. Yuan, and A.Y.C. Nee</i>	

Computer Vision II

Accurate 3D Facial Synthesis for Plastic Surgery Simulation	269
<i>Lei Wu, Houqiang Li, Nenghai Yu, and Mingjing Li</i>	
Generic 3-D Modeling for Content Analysis of Court-Net Sports Sequences	279
<i>Jungong Han, Dirk Farin, and Peter H.N. de With</i>	
Using Camera Calibration and Radiosity on GPU for Interactive Common Illumination	289
<i>Yongho Hwang, Junhwan Kim, and Hyunki Hong</i>	

Image Processing II

The Study of Detecting for IR Weak and Small Targets Based on Fractal Features	296
<i>Hong Zhang, Xiaolong Liu, Junwei Li, and Zhenfu Zhu</i>	
Visual Features Extraction Through Spatiotemporal Slice Analysis	304
<i>Xuefeng Pan, Jintao Li, Shan Ba, Yongdong Zhang, and Sheng Tang</i>	
High Quality Color Interpolation for Color Filter Array with Low Complexity	314
<i>Kwon Lee and Chulhee Lee</i>	
A Two-Level Matching Scheme for Speedy and Accurate Palmprint Identification	323
<i>Fang Li, Maylor K.H. Leung, and Xiaozhou Yu</i>	

Multimedia Signal Processing and Communications II

Improving Quality of Live Streaming Service over P2P Networks with User Behavior Model	333
<i>Yun Tang, Lifeng Sun, Jian-Guang Luo, Shi-Qiang Yang, and Yuzhuo Zhong</i>	

Coopetitive Multimedia Surveillance.....	343
<i>Vivek K. Singh, Pradeep K. Atrey, and Mohan S. Kankanhalli</i>	

Efficient H.264/AVC Video Encoder Where Pattern Is Used as Extra Mode for Wide Range of Video Coding	353
<i>Manoranjan Paul and Manzur Murshed</i>	

Performance Enhancement of Error Resilient Entropy Coding on Block Based Bitstream of SPIHT	363
<i>Jeong-Sig Kim and Keun-Young Lee</i>	

FIDP: A Novel Architecture for Lifting-Based 2D DWT in JPEG2000	373
<i>Bao-Feng Li and Yong Dou</i>	

Analysis of Monotonic Responsive Functions for Congestion Control	383
<i>C. Chen, Z.G. Li, and Y.C. Soh</i>	

Image Classification and Recognition

A Computational Estimate of the Physical Effort in Human Poses.....	393
<i>Yinpeng Chen, Hari Sundaram, and Jodi James</i>	

A Matching-Based Approach for Human Motion Analysis	405
<i>Weilun Lao, Jungong Han, and Peter H.N. de With</i>	

Face Recognition Using Kernel Uncorrelated Discriminant Analysis.....	415
<i>Licheng Jiao, Rui Hu, Weida Zhou, and Yi Gao</i>	

Recognition of SAR Occluded Targets Using SVM	423
<i>Yi Gao, Rui Hu, Licheng Jiao, Weida Zhou, and Xiangrong Zhang</i>	

Advanced Media Processing and Security

Discovery of Image Versions in Large Collections	433
<i>Jun Jie Foo, Ranjan Sinha, and Justin Zobel</i>	

User-Friendly Image Sharing in Multimedia Database Using Polynomials with Different Primes	443
<i>Ching-Nung Yang, Kun-Hsuan Yu, and Rastislav Lukac</i>	

Accelerating Non-photorealistic Video Effects Using Compressed Domain Processing	453
<i>Wen-Hung Liao</i>	
A Color Image Hiding Scheme Based on SMVQ and Modulo Operator	461
<i>Chi-Shiang Chan and Chin-Chen Chang</i>	
Ubiquitous Multimedia Service (UMS)	
Computer Interface to Use Eye and Mouse Movement	471
<i>Eun Yi Kim, Se Hyun Park, and Bum-Joo Shin</i>	
Advanced Agent-Delegated Route Optimization Protocol for Efficient Multimedia Services at Low-Battery Devices	479
<i>Ilsun You and Jiyoung Lim</i>	
A Study on Key Distribution and ID Registration in the AAA System for Ubiquitous Multimedia Environments	487
<i>Seo-Il Kang, Deok-Gyu Lee, and Im-Yeong Lee</i>	
A Distributed Broadcast Algorithm for Wireless Mobile Ad Hoc Networks	494
<i>Layuan Li, Feng Zheng, Chunlin Li, and Qiang Sun</i>	
Dynamic MAP Selection Scheme in HMIPv6 Network	502
<i>Wonsik Chung and SuKyoung Lee</i>	
A New Fingerprinting Codes for Multimedia Contents	510
<i>Jin-Heung Lee, Tea-Hun Lim, Keon-Woo Kim, and Sang-Uk Shin</i>	
Content and Location Addressable Overlay Network for Wireless Multimedia Communication	520
<i>Huafeng Wu</i>	
A Centralized-Abstraction and Replicated-View Architecture Running on Ubiquitous Networks for Collaborative Multimedia Distance Education Services	528
<i>Eung Nam Ko, Jong Hyuk Park, Deok Gyu Lee, Kee Chun Bang, and Soo Hong Kim</i>	
Asymmetric Link Dynamic Routing Algorithm for Ubiquitous Multimedia Services	536
<i>Jeong-Jun Suh, Shan Guo Quan, Jeong Doo Park, Jong Hyuk Park, and Young Yong Kim</i>	
Building Detection in Augmented Reality Based Navigation System	544
<i>Kisung Lee, Yongkwon Kim, Seong Ik Cho, and Kyungho Choi</i>	

Local Authentication Scheme Based on AAA in Mobile IPv6 Networks <i>Jong-Hyouk Lee, Young-Ju Han, and Tai-Myoung Chung</i>	552
Handover-Specific Optimization for IEEE 802.16e Sleep Mode <i>Jaesung Park, Beomjoon Kim, and Iksoon Hwang</i>	560
Services and the Assurance in Multimedia Mobile Information Systems (SAMM)	
An Improvement of the Processing Delay for the G.723.1 Vocoder <i>Kwang Hyoung Lee, So Yeon Min, Keun Wang Lee, and Jeong Gyu Jee</i>	568
Functional Architecture of Performance Measurement System Based on Grid Monitoring Architecture <i>Hyuncheol Kim, Seongjin Ahn, Byungyeon Park, Jihyun Song, and Junkyun Choi</i>	576
Adaptive Synchronization Scheme Using Terminal Buffering in Mobile Multimedia Networks <i>Gi-Sung Lee</i>	584
Educational Information System Using Two Phase Feature Extract in u-Learning Environment <i>Keun Wang Lee, Kwang-Hyoung Lee, and Jong-Cheon Park</i>	592
Gradient Method for the Estimation of Travel Demand Using Traffic Counts on the Large Scale Network <i>Tae-Jun Ha, Seungjae Lee, Jonghyung Kim, and Chungwon Lee</i>	599
A New Distortion Correction Method for the Maps of Public Land of Korea <i>Dong-Hoon Jeong, Tae-Jun Ha, Byung-Guk Kim, and Je Jin Park</i>	606
Establishment of Car Following Theory Based on Fuzzy-Based Sensitivity Parameters <i>Jaimu Won, Sooil Lee, Sooboom Lee, and Tae Ho Kim</i>	613
Development of Model for Highway Design Consistency Evaluation with Artificial Neural Network <i>Jeomho Lee and Sooil Lee</i>	620