Christian Barillot David R. Haynor
Pierre Hellier (Eds.)

Medical Image Computing and Computer-Assisted Intervention – MICCAI 2004

LNCS 3216

7th International Conference
Saint-Malo, France, September 2004
Proceedings, Part I

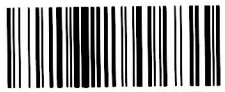
1 Part I

Springer

Christian Barillot David R. Haynor
Pierre Hellier (Eds.)

Medical Image Computing and Computer-Assisted Intervention – MICCAI 2004

7th International Conference
Saint-Malo, France, September 26-29, 2004
Proceedings, Part I



Springer

Volume Editors

Christian Barillot
IRISA-CNRS, VisAGeS Team
Campus de Beaulieu, 35042 Rennes Cedex, France
E-mail: Christian.Barillot@irisa.fr

David R. Haynor
University of Washington
Department of Radiology
Seattle, WA 98195-6004, USA
E-mail: haynor@u.washington.edu

Pierre Hellier
IRISA-INRIA, VisAGeS Team
Campus de Beaulieu, 35042 Rennes Cedex, France
E-mail: Pierre.Hellier@irisa.fr

Library of Congress Control Number: 2004111954

CR Subject Classification (1998): I.5, I.4, I.3.5-8, I.2.9-10, J.3, J.6

ISSN 0302-9743
ISBN 3-540-22976-0 Springer Berlin Heidelberg New York

Typesetting: Camera-ready by author, data conversion by PTP-Berlin, Protago-TeX-Production GmbH
Printed on acid-free paper SPIN: 11317753 06/3142 5 4 3 2 1 0

Lecture Notes in Computer Science 3216

Commenced Publication in 1973
Founding and Former Series Editors:
Gerhard Goos, Juris Hartmanis, and Jan van Leeuwen

Editorial Board

Preface

The 7th International Conference on Medical Imaging and Computer Assisted Intervention, **MICCAI 2004**, was held in Saint-Malo, Brittany, France at the "Palais du Grand Large" conference center, September 26–29, 2004. The proposal to host **MICCAI 2004** was strongly encouraged and supported by IRISA, Rennes. IRISA is a publicly funded national research laboratory with a staff of 370, including 150 full-time research scientists or teaching research scientists and 115 postgraduate students. INRIA, the CNRS, and the University of Rennes 1 are all partners in this mixed research unit, and all three organizations were helpful in supporting **MICCAI**.

MICCAI has become a premier international conference with in-depth papers on the multidisciplinary fields of medical image computing, computer-assisted intervention and medical robotics. The conference brings together clinicians, biological scientists, computer scientists, engineers, physicists and other researchers and offers them a forum to exchange ideas in these exciting and rapidly growing fields.

The impact of **MICCAI** increases each year and the quality and quantity of submitted papers this year was very impressive. We received a record 516 full submissions (8 pages in length) and 101 short communications (2 pages) from 36 different countries and 5 continents (see figures below). All submissions were reviewed by up to 4 external reviewers from the Scientific Review Committee and a primary reviewer from the Program Committee. All reviews were then considered by the **MICCAI 2004** Program Committee, resulting in the acceptance of 235 full papers and 33 short communications. The normal mode of presentation at **MICCAI 2004** was as a poster; in addition, 46 papers were chosen for oral presentation. All of the full papers accepted are included in these proceedings in 8-page format. All of the accepted 2-page short communications are also included; they appeared at the meeting as posters. The first figure below shows the distribution of accepted contributions by topic, topics being defined from the primary keyword of the submission.

To ensure that these very selective decisions was made as fairly and justly as possible, reviewer names were not disclosed to anyone closely associated with the submissions, including, when necessary, the organizers. In addition, to avoid any unwanted pressure on reviewers, the general chair and program chair did not co-author any submissions from their groups. Each of the 13 members of the Program Committee supervised the review process for almost 50 papers. The members of the Scientific Review Committee were selected based both on a draft and on an open volunteering process and a final list of 182 reviewers was selected based on background and expertise. After recommendations were made by the reviewers and the Program Committee, a final meeting took place during two days in early May in Rennes. Because of the overall quality of the submissions and because of the limited number of slots available for presentation, about one quarter of the contributions were further discussed in order to form the final program. We are especially grateful to Nicholas Ayache, Yves Bizais,

Hervé Delingette, Randy Ellis, Guido Gerig and Wiro Niessen, who attended this meeting and helped us make the final selections. We are grateful to everyone who participated in the review process; they donated a large amount of time and effort to make these volumes possible and insure a high level of quality.

It was our great pleasure to welcome this year's **MICCAI 2004** attendees to Saint-Malo. Saint-Malo is a corsair city (a corsair was a kind of official "pirate," hired by the king) and the home city of Jacques Cartier, the discoverer of Canada and Montreal, the site of last year's **MICCAI**. The city is located on the north coast of Brittany, close to Mont Saint-Michel and to Rennes. Saint-Malo is often compared to a great vessel preparing to set out to sea, always seeking renewal and adventure. We hope that the attendees, in addition to attending the conference, took the opportunity to explore the city, the sea shore, particularly at high tide (which was unusually high at the time of the conference), and other parts of Brittany, one of France's most beautiful regions. For those unable to attend, we trust that these volumes will provide a valuable record of the state of the art in the **MICCAI 2004** disciplines.

We look forward to welcoming you to **MICCAI 2005**, to be held next year in Palm Springs, CA, USA.

September 2004 Christian Barillot, David Haynor and Pierre Hellier

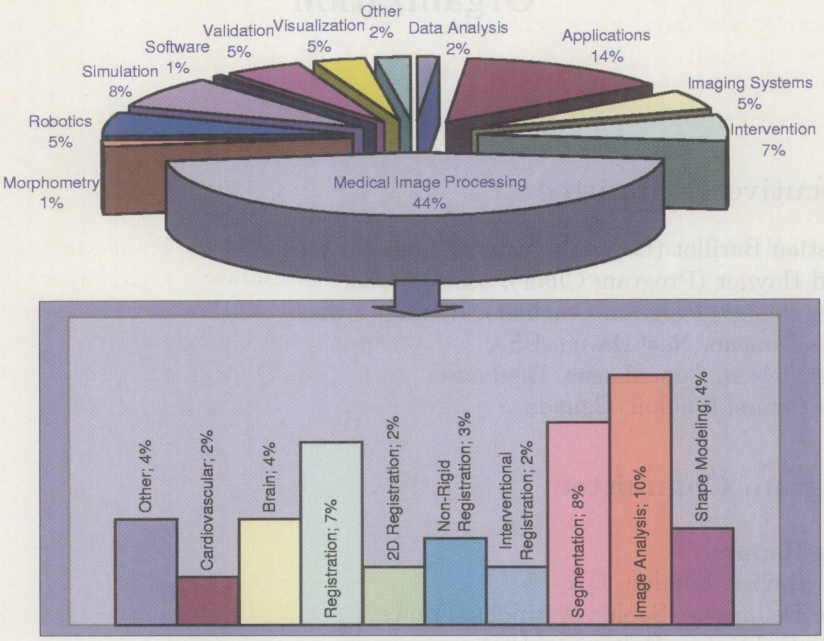


Fig. 1. View at a glance of **MICCAI 2004** contributions based on the declared primary keyword

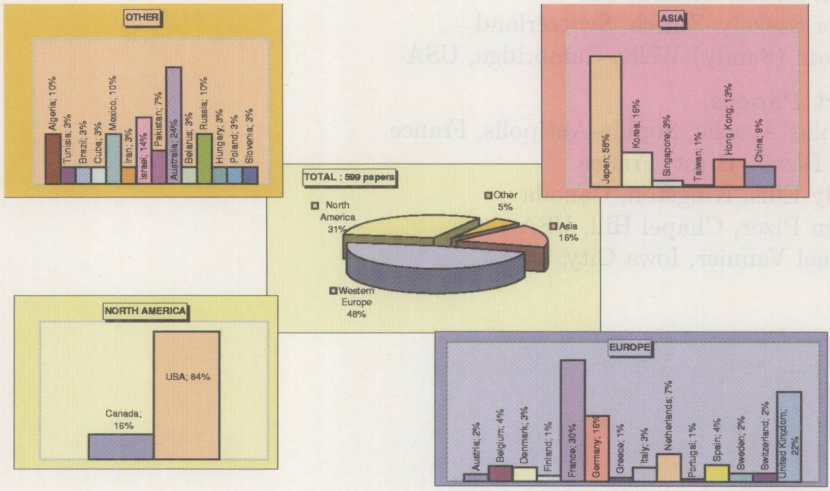


Fig. 2. Distribution of **MICCAI 2004** submissions by region

Organization

Executive Committee

Christian Barillot (General Chair), Rennes, France
David Haynor (Program Chair), Seattle, USA
Pierre Hellier (Program Co-chair), Rennes, France
James Duncan, New Haven, USA
Mads Nielsen, Copenhagen, Denmark
Terry Peters, London, Canada

Program Committee

Long Papers
Brian Davies, London, UK
Hervé Delingette, Sophia-Antipolis, France
Gabor Fichtinger, Baltimore, USA
Guido Gerig, Chapel Hill, USA
Nobuhiko Hata, Tokyo, Japan
David Hawkes, London, UK
Wiro Niessen, Utrecht, The Netherlands
Alison Noble, Oxford, UK
Gabor Szekely, Zurich, Switzerland
William (Sandy) Wells, Cambridge, USA

Short Papers
Nicholas Ayache, Sophia-Antipolis, France
Yves Bizais, Brest, France
Randy Ellis, Kingston, Canada
Steven Pizer, Chapel Hill, USA
Michael Vannier, Iowa City, USA

MICCAI Board

Alan Colchester (General Chair), Canterbury, UK
Nicholas Ayache, Sophia-Antipolis, France
Christian Barillot, Rennes, France
Takeyoshi Dohi, Tokyo, Japan
James Duncan, New Haven, USA
Terry Peters, London, Canada
Stephen Pizer, Chapel Hill, USA
Richard Robb, Rochester, USA
Russell Taylor, Baltimore, USA
Jocelyne Troccaz, Grenoble, France
Max Viergever, Utrecht, The Netherlands

Tutorial Chair

Grégoire Malandain, Sophia-Antipolis, France

Poster Coordination

Sylvain Prima, Rennes, France

Industrial Exhibition Co-chairs

Jean-Loïc Delhaye, Rennes, France
Bernard Gibaud, Rennes, France

Student Awards Coordination

Karl Heinz Höhne, Hamburg, Germany

Conference Secretariat/Management

Edith Blin-Guyot, Rennes, France
Caroline Binard, Rennes, France
Elisabeth Lebret, Rennes, France
Valérie Lecomte, Rennes, France
Nathalie Saux-Nogues, Rennes, France
Marina Surbiguet, Rennes, France

Proceedings Management

Laure Aït-Ali, Rennes, France
Arnaud Ogier, Rennes, France
Cybèle Ciofolo, Rennes, France
Valérie Lecomte, Rennes, France
Anne-Sophie Tranchant, Rennes, France
Sylvain Prima, Rennes, France
Romain Valabrègue, Rennes, France

Local Organization Committee

Christine Alami, Rennes, France
Annie Audic, Rennes, France
Yves Bizais, Brest, France
Patrick Bourguet, Rennes, France
Patrick Bouthemy, Rennes, France
Michel Carsin, Rennes, France
Pierre Darnault, Rennes, France
Gilles Edan, Rennes, France
Jean-Paul Guillois, Rennes, France
Pascal Haigron, Rennes, France
Pierre Jannin, Rennes, France
Claude Labit, Rennes, France
Jean-Jacques Levrel, Rennes, France
Eric Marchand, Rennes, France
Etienne Mémin, Rennes, France
Xavier Morandi, Rennes, France
Gérard Paget, Rennes, France
Jean-Marie Scarabin, Rennes, France

Reviewers

Purang Abolmaesumi
Faiza Admiraal-Behloul
Marco Agus
Carlos Alberola-López
Elsa Angelini
Neculai Archip
Simon R. Arridge
John Ashburner
Fred S. Azar
Christian Barillot
Pierre-Louis Bazin
Fernando Bello
Marie-Odile Berger
Margrit Betke
Isabelle Bloch
Thomas Boettger
Sylvain Bouix
Catherina R. Burghart
Darwin G. Caldwell
Bernard Cena
Francois Chaumette
Kiyoyuki Chinzei
Gary Christensen
Albert C.S. Chung

Philippe Cinquin
Jean Louis Coatrieux
Chris Cocosco
Alan Colchester
D. Louis Collins
Isabelle Corouge
Olivier Coulon
Patrick Courtney
Christos Davatzikos
Brian Davis
Benoit Dawant
Marleen De Bruijne
Michel Desvignes
Simon Dimaio
Etienne Dombre
Simon Duchesne
Ayman El-Baz
Alan Evans
Yong Fan
J. Michael Fitzpatrick
Oliver Fleig
Alejandro Frangi
Ola Friman
Robert Galloway
Andrew Gee
James Gee
Bernard Gibaud
Maryellen Giger
Daniel Glozman
Polina Golland
Miguel Angel Gonzalez Ballester
Eric Grimson
Christophe Grova
Christoph Guetter
Pascal Haigron
Steven Haker
Makoto Hashizume
Stefan Hassfeld
Peter Hastreiter
Pheng Ann Heng
Derek Hill
Karl Heinz Höhne
Robert Howe
Hiroshi Iseki
Pierre Jannin
Branislav Jaramaz
Sarang Joshi
Michael Kaus
Peter Kazanzides
Erwin Keeve
Erwan Kerrien
Charles Kervrann
Ali Khamene
Sun I. Kim
Tadashi Kitamura
Karl Krissian
Gernot Kronreif
Frithjof Kruggel
Luigi Landini
Thomas Lange
Thomas Lango
Rudy Lapeer
Rasmus Larsen
Heinz U. Lemke
Shuo Li
Jean Lienard
Alan Liu
Huafeng Liu
Jundong Liu
Marco Loog
Benoit Macq
Mahnaz Maddah
Frederik Maes
Isabelle Magnin
Sherif Makram-Ebeid
Gregoire Malandain
Armando Manduca
Jean-Francois Mangin
Marcos Martín-Fernández
Calvin Maurer Jr.
Tim McInerney
Etienne Memin
Chuck Meyer
Michael I. Miga
Xavier Morandi
Kensaku Mori
Ralph Mosges
Yoshihiro Muragaki
Toshio Nakagohri
Kyojiro Nambu

Nassir Navab
Mads Nielsen
Wieslaw L. Nowinski
Thomas O'Donnell
Allison M. Okamura
Sebastien Ourselin
Nikos Paragios
Heinz-Otto Peitgen
Mélanie Pelegrini-Issac
Xavier Pennec
Terry M. Peters
Josien Pluim
Jean-Baptiste Poline
Andreas Pommert
Richard Prager
Sylvain Prima
Jerry L. Prince
Sonia Pujol
Jean Regis
Richard A. Robb
Alexis Roche
Torsten Rohlfing
Robert Rohling
Karl Rohr
Daniel Rueckert
Juan Ruiz-Alzola
Ichiro Sakuma
Tim Salcudean
Yoshinobu Sato
Frank Sauer
Julia Schnabel
Dinggang Shen
Pengcheng Shi
Orjan Smedby
Milan Sonka
Jon Sporring
James Stewart
Colin Studholme
Martin Styner
Paul Suetens
Chris Taylor
Frank Tendick
Bart M. Ter Haar Romeny
Demetri Terzopoulos
Jean-Philippe Thiran
Marc Thiriet
Jocelyne Troccaz
Regis Vaillant
Johan Van Cleynenbreugel
Bram Van Ginneken
Koen Van Leemput
Dirk Vandermeulen
Sebastian Vogt
Kirby Vosburgh
Mark Wachowiak
Yongmei Michelle Wang
Simon Warfield
Carl-Fredrik Westin
Ross Whitaker
Louis L. Whitcomb
Simon Wildermuth
James Williams
Yasushi Yamauchi
Guang-Zhong Yang
Terry Yoo
Kelly Zou
Tatjana Zrimec
Reyer Zwiggelaar

Lecture Notes in Computer Science

For information about Vols. 1–3121

please contact your bookseller or Springer

Vol. 3255: A. Benczúr, J. Demetrovics, G. Gottlob (Eds.), Advances in Databases and Information Systems. XI, 423 pages. 2004.

Vol. 3253: Y. Lakhnech, S. Yovine (Eds.), Formal Techniques in Timed, Real-Time, and Fault-Tolerant Systems. X, 397 pages. 2004.

Vol. 3249: B. Buchberger, J.A. Campbell (Eds.), Artificial Intelligence and Symbolic Computation. X, 285 pages. 2004. (Subseries LNAI).

Vol. 3246: A. Apostolico, M. Melucci (Eds.), String Processing and Information Retrieval. XIV, 316 pages. 2004.

Vol. 3241: D. Kranzlmüller, P. Kacsuk, J.J. Dongarra (Eds.), Recent Advances in Parallel Virtual Machine and Message Passing Interface. XIII, 452 pages. 2004.

Vol. 3240: I. Jonassen, J. Kim (Eds.), Algorithms in Bioinformatics. IX, 476 pages. 2004. (Subseries LNBI).

Vol. 3239: G. Nicosia, V. Cutello, P.J. Bentley, J. Timmis (Eds.), Artificial Immune Systems. XII, 444 pages. 2004.

Vol. 3238: S. Biundo, T. Frühwirth, G. Palm (Eds.), KI 2004: Advances in Artificial Intelligence. XI, 467 pages. 2004. (Subseries LNAI).

Vol. 3232: R. Heery, L. Lyon (Eds.), Research and Advanced Technology for Digital Libraries. XV, 528 pages. 2004.

Vol. 3224: E. Jonsson, A. Valdes, M. Almgren (Eds.), Recent Advances in Intrusion Detection. XII, 315 pages. 2004.

Vol. 3223: K. Slind, A. Bunker, G. Gopalakrishnan (Eds.), Theorem Proving in Higher Order Logics. VIII, 337 pages. 2004.

Vol. 3221: S. Albers, T. Radzik (Eds.), Algorithms – ESA 2004. XVIII, 836 pages. 2004.

Vol. 3220: J.C. Lester, R.M. Vicari, F. Paraguaçu (Eds.), Intelligent Tutoring Systems. XXI, 920 pages. 2004.

Vol. 3216: C. Barillot, D.R. Haynor, P. Hellier (Eds.), Medical Image Computing and Computer-Assisted Intervention – MICCAI 2004. XXXVIII, 930 pages. 2004.

Vol. 3217: C. Barillot, D.R. Haynor, P. Hellier (Eds.), Medical Image Computing and Computer-Assisted Intervention – MICCAI 2004. XXXVIII, 1114 pages. 2004.

Vol. 3210: J. Marcinkowski, A. Tarlecki (Eds.), Computer Science Logic. XI, 520 pages. 2004.

Vol. 3208: H.J. Ohlbach, S. Schaffert (Eds.), Principles and Practice of Semantic Web Reasoning. VII, 165 pages. 2004.

Vol. 3207: L.T. Yang, M. Guo, G.R. Gao, N.K. Jha (Eds.), Embedded and Ubiquitous Computing. XX, 1116 pages. 2004.

Vol. 3206: P. Sojka, I. Kopecek, K. Pala (Eds.), Text, Speech and Dialogue. XIII, 667 pages. 2004. (Subseries LNAI).

Vol. 3205: N. Davies, E. Mynatt, I. Siio (Eds.), UbiComp 2004: Ubiquitous Computing. XVI, 452 pages. 2004.

Vol. 3203: J. Becker, M. Platzner, S. Vernalde (Eds.), Field Programmable Logic and Application. XXX, 1198 pages. 2004.

Vol. 3202: J.-F. Boulicaut, F. Esposito, F. Giannotti, D. Pedreschi (Eds.), Knowledge Discovery in Databases: PKDD 2004. XIX, 560 pages. 2004. (Subseries LNAI).

Vol. 3201: J.-F. Boulicaut, F. Esposito, F. Giannotti, D. Pedreschi (Eds.), Machine Learning: ECML 2004. XVIII, 580 pages. 2004. (Subseries LNAI).

Vol. 3199: H. Schepers (Ed.), Software and Compilers for Embedded Systems. X, 259 pages. 2004.

Vol. 3198: G.-J. de Vreede, L.A. Guerrero, G. Marín Raventós (Eds.), Groupware: Design, Implementation and Use. XI, 378 pages. 2004.

Vol. 3194: R. Camacho, R. King, A. Srinivasan (Eds.), Inductive Logic Programming. XI, 361 pages. 2004. (Subseries LNAI).

Vol. 3193: P. Samarati, P. Ryan, D. Gollmann, R. Molva (Eds.), Computer Security – ESORICS 2004. X, 457 pages. 2004.

Vol. 3192: C. Bussler, D. Fensel (Eds.), Artificial Intelligence: Methodology, Systems, and Applications. XIII, 522 pages. 2004. (Subseries LNAI).

Vol. 3190: Y. Luo (Ed.), Cooperative Design, Visualization, and Engineering. IX, 248 pages. 2004.

Vol. 3189: P.-C. Yew, J. Xue (Eds.), Advances in Computer Systems Architecture. XVII, 598 pages. 2004.

Vol. 3186: Z. Bellahsène, T. Milo, M. Rys, D. Suciu, R. Unland (Eds.), Database and XML Technologies. X, 235 pages. 2004.

Vol. 3185: M. Bernardo, F. Corradini (Eds.), Formal Methods for the Design of Real-Time Systems. VII, 295 pages. 2004.

Vol. 3184: S. Katsikas, J. Lopez, G. Pernul (Eds.), Trust and Privacy in Digital Business. XI, 299 pages. 2004.

Vol. 3183: R. Traunmüller (Ed.), Electronic Government. XIX, 583 pages. 2004.

Vol. 3182: K. Bauknecht, M. Bichler, B. Pröll (Eds.), E-Commerce and Web Technologies. XI, 370 pages. 2004.

Vol. 3181: Y. Kambayashi, M. Mohania, W. Wöß (Eds.), Data Warehousing and Knowledge Discovery. XIV, 412 pages. 2004.

Vol. 3180: F. Galindo, M. Takizawa, R. Traunmüller (Eds.), Database and Expert Systems Applications. XXI, 972 pages. 2004.

Vol. 3179: F.J. Perales, B.A. Draper (Eds.), Articulated Motion and Deformable Objects. XI, 270 pages. 2004.

Vol. 3178: W. Jonker, M. Petkovic (Eds.), Secure Data Management. VIII, 219 pages. 2004.

Vol. 3177: Z.R. Yang, H. Yin, R. Everson (Eds.), Intelligent Data Engineering and Automated Learning – IDEAL 2004. XVIII, 852 pages. 2004.

Vol. 3176: O. Bousquet, U. von Luxburg, G. Rätsch (Eds.), Advanced Lectures on Machine Learning. IX, 241 pages. 2004. (Subseries LNAI).

Vol. 3175: C.E. Rasmussen, H.H. Bülthoff, B. Schölkopf, M.A. Giese (Eds.), Pattern Recognition. XVIII, 581 pages. 2004.

Vol. 3174: F. Yin, J. Wang, C. Guo (Eds.), Advances in Neural Networks - ISNN 2004. XXXV, 1021 pages. 2004.

Vol. 3173: F. Yin, J. Wang, C. Guo (Eds.), Advances in Neural Networks – ISNN 2004. XXXV, 1041 pages. 2004.

Vol. 3172: M. Dorigo, M. Birattari, C. Blum, L. M. Gambardella, F. Mondada, T. Stützle (Eds.), Ant Colony, Optimization and Swarm Intelligence. XII, 434 pages. 2004.

Vol. 3170: P. Gardner, N. Yoshida (Eds.), CONCUR 2004 - Concurrency Theory. XIII, 529 pages. 2004.

Vol. 3166: M. Rauterberg (Ed.), Entertainment Computing – ICEC 2004. XXIII, 617 pages. 2004.

Vol. 3163: S. Marinai, A. Dengel (Eds.), Document Analysis Systems VI. XI, 564 pages. 2004.

Vol. 3162: R. Downey, M. Fellows, F. Dehne (Eds.), Parameterized and Exact Computation. X, 293 pages. 2004.

Vol. 3160: S. Brewster, M. Dunlop (Eds.), Mobile Human-Computer Interaction – MobileHCI 2004. XVII, 541 pages. 2004.

Vol. 3159: U. Visser, Intelligent Information Integration for the Semantic Web. XIV, 150 pages. 2004. (Subseries LNAI).

Vol. 3158: I. Nikolaidis, M. Barbeau, E. Kranakis (Eds.), Ad-Hoc, Mobile, and Wireless Networks. IX, 344 pages. 2004.

Vol. 3157: C. Zhang, H. W. Guesgen, W.K. Yeap (Eds.), PRICAI 2004: Trends in Artificial Intelligence. XX, 1023 pages. 2004. (Subseries LNAI).

Vol. 3156: M. Joye, J.-J. Quisquater (Eds.), Cryptographic Hardware and Embedded Systems - CHES 2004. XIII, 455 pages. 2004.

Vol. 3155: P. Funk, P.A. González Calero (Eds.), Advances in Case-Based Reasoning. XIII, 822 pages. 2004. (Subseries LNAI).

Vol. 3154: R.L. Nord (Ed.), Software Product Lines. XIV, 334 pages. 2004.

Vol. 3153: J. Fiala, V. Koubek, J. Kratochvíl (Eds.), Mathematical Foundations of Computer Science 2004. XIV, 902 pages. 2004.

Vol. 3152: M. Franklin (Ed.), Advances in Cryptology – CRYPTO 2004. XI, 579 pages. 2004.

Vol. 3150: G.-Z. Yang, T. Jiang (Eds.), Medical Imaging and Augmented Reality. XII, 378 pages. 2004.

Vol. 3149: M. Danelutto, M. Vanneschi, D. Laforenza (Eds.), Euro-Par 2004 Parallel Processing. XXXIV, 1081 pages. 2004.

Vol. 3148: R. Giacobazzi (Ed.), Static Analysis. XI, 393 pages. 2004.

Vol. 3146: P. Érdi, A. Esposito, M. Marinaro, S. Scarpetta (Eds.), Computational Neuroscience: Cortical Dynamics. XI, 161 pages. 2004.

Vol. 3144: M. Papatriantafilou, P. Hunel (Eds.), Principles of Distributed Systems. XI, 246 pages. 2004.

Vol. 3143: W. Liu, Y. Shi, Q. Li (Eds.), Advances in Web-Based Learning – ICWL 2004. XIV, 459 pages. 2004.

Vol. 3142: J. Diaz, J. Karhumäki, A. Lepistö, D. Sannella (Eds.), Automata, Languages and Programming. XIX, 1253 pages. 2004.

Vol. 3140: N. Koch, P. Fraternali, M. Wirsing (Eds.), Web Engineering. XXI, 623 pages. 2004.

Vol. 3139: F. Iida, R. Pfeifer, L. Steels, Y. Kuniyoshi (Eds.), Embodied Artificial Intelligence. IX, 331 pages. 2004. (Subseries LNAI).

Vol. 3138: A. Fred, T. Caelli, R.P.W. Duin, A. Campilho, D.d. Ridder (Eds.), Structural, Syntactic, and Statistical Pattern Recognition. XXII, 1168 pages. 2004.

Vol. 3137: P. De Bra, W. Nejdl (Eds.), Adaptive Hypermedia and Adaptive Web-Based Systems. XIV, 442 pages. 2004.

Vol. 3136: F. Meziane, E. Métais (Eds.), Natural Language Processing and Information Systems. XII, 436 pages. 2004.

Vol. 3134: C. Zannier, H. Erdogmus, L. Lindstrom (Eds.), Extreme Programming and Agile Methods - XP/Agile Universe 2004. XIV, 233 pages. 2004.

Vol. 3133: A.D. Pimentel, S. Vassiliadis (Eds.), Computer Systems: Architectures, Modeling, and Simulation. XIII, 562 pages. 2004.

Vol. 3132: B. Demoen, V. Lifschitz (Eds.), Logic Programming. XII, 480 pages. 2004.

Vol. 3131: V. Torra, Y. Narukawa (Eds.), Modeling Decisions for Artificial Intelligence. XI, 327 pages. 2004. (Subseries LNAI).

Vol. 3130: A. Syropoulos, K. Berry, Y. Haralambous, B. Hughes, S. Peter, J. Plaice (Eds.), TeX, XML, and Digital Typography. VIII, 265 pages. 2004.

Vol. 3129: Q. Li, G. Wang, L. Feng (Eds.), Advances in Web-Age Information Management. XVII, 753 pages. 2004.

Vol. 3128: D. Asonov (Ed.), Querying Databases Privately. IX, 115 pages. 2004.

Vol. 3127: K.E. Wolff, H.D. Pfeiffer, H.S. Delugach (Eds.), Conceptual Structures at Work. XI, 403 pages. 2004. (Subseries LNAI).

Vol. 3126: P. Dini, P. Lorenz, J.N.d. Souza (Eds.), Service Assurance with Partial and Intermittent Resources. XI, 312 pages. 2004.

Vol. 3125: D. Kozen (Ed.), Mathematics of Program Construction. X, 401 pages. 2004.

Vol. 3124: J.N. de Souza, P. Dini, P. Lorenz (Eds.), Telecommunications and Networking - ICT 2004. XXVI, 1390 pages. 2004.

Vol. 3123: A. Belz, R. Evans, P. Piwek (Eds.), Natural Language Generation. X, 219 pages. 2004. (Subseries LNAI).

Vol. 3122: K. Jansen, S. Khanna, J.D.P. Rolim, D. Ron (Eds.), Approximation, Randomization, and Combinatorial Optimization. IX, 428 pages. 2004.

Table of Contents, Part I

LNCS 3216: MICCAI 2004 Proceedings, Part I

Brain Segmentation

Cardiovascular Segmentation

Segmentation I

Segmentation Methods