

LNCS 3408

David E. Losada
Juan M. Fernández-Luna (Eds.)

Advances in Information Retrieval

27th European Conference on IR Research, ECIR 2005
Santiago de Compostela, Spain, March 2005
Proceedings



Springer

David E. Losada Juan M. Fernández-Luna (Eds.)

Advances in Information Retrieval

27th European Conference on IR Research, ECIR 2005
Santiago de Compostela, Spain, March 21-23, 2005
Proceedings



Volume Editors

David E. Losada

Universidad de Santiago de Compostela

Departamento de Electrónica y Computación

Campus sur s/n, Universidad de Santiago de Compostela

15782 Santiago de Compostela, Spain

E-mail: dlosada@usc.es

Juan M. Fernández-Luna

Universidad de Granada

E.T.S.I. Informática

Departamento de Ciencias de la Computación e Inteligencia Artificial

C/Periodista Daniel Saucedo Aranda, s/n, 18071 Granada, Spain

E-mail: jmfluna@decsai.ugr.es

Library of Congress Control Number: 2005921726

CR Subject Classification (1998): H.3, H.2, I.2.3, I.2.6, H.4, H.5.4, I.7

ISSN 0302-9743

ISBN 3-540-25295-9 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

springeronline.com

© Springer-Verlag Berlin Heidelberg 2005

Printed in Germany

Typesetting: Camera-ready by author, data conversion by Scientific Publishing Services, Chennai, India
Printed on acid-free paper SPIN: 11406761 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

New York University, NY, 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

Welcome to Santiago de Compostela! We are pleased to host the 27th Annual European Conference on Information Retrieval Research (ECIR 2005) on its first visit to Spain.

These proceedings contain the refereed full papers and poster abstracts presented at ECIR 2005. This conference was initially established by the Information Retrieval Specialist Group of the British Computer Society (BCS-IRSG) under the name "Annual Colloquium on Information Retrieval Research." The colloquium was held in the United Kingdom each year until 1998, when the event was organized in Grenoble, France. Since then the conference venue has alternated between the United Kingdom and Continental Europe, reflecting the growing European orientation of ECIR. For the same reason, in 2001 the event was renamed "European Conference on Information Retrieval Research." In recent years, ECIR has continued to grow and has become the major European forum for the discussion of research in the field of information retrieval.

ECIR 2005 was held at the Technical School of Engineering of the University of Santiago de Compostela, Spain. In terms of submissions, ECIR 2005 was a record-breaking success, since 124 full papers were submitted in response to the call for papers. This was a sharp increase from the 101 submissions received for ECIR 2003, which was the most successful ECIR in terms of submissions. ECIR 2005 established also a call for posters, and 41 posters were submitted. Paper and poster submissions were received from across Europe and further afield, including North America, South America, Asia and Australia, which is a clear indication of the growing popularity and reputation of the conference. All papers and posters were reviewed by at least three reviewers. Out of the 124 submitted papers, 34 (27%) were accepted; 17 (41%) posters were accepted.

Students are well represented, since 22 out of 34 full papers and 10 out of 17 posters involve a full-time student as the primary author, which means that the traditional student focus of the conference has been very well preserved.

The increasing presence of research papers from leading companies it is also remarkable.

We had an outstanding set of research contributions this year, reflecting the full range of information retrieval research areas. The proceedings start with two invited papers, from Keith van Rijsbergen and Ricardo Baeza-Yates. van Rijsbergen's work shows how logic emerges from the geometry of the popular vector space model. Baeza-Yates proposes two applications of analyzing and clustering queries stored in server logs of search engines and website logs. The topics covered by the papers and posters include peer-to-peer systems, formal models, text summarization, classification, fusion, user studies, evaluation, efficiency issues, image and video retrieval, web IR, and XML retrieval.

The success of ECIR owes a lot to many individuals involved in the reviewing tasks. We are deeply grateful to all involved in this process for their dedication and professionalism in meeting the very tight deadlines. We would like to extend our warm thanks to the researchers who submitted their results for consideration. Many thanks also to our keynote speakers Keith van Rijsbergen and Ricardo Baeza-Yates for agreeing to present at ECIR 2005. We are also extremely grateful to Fabio Crestani, Pia Borlund and Gianni Amati for facing the difficult task of deciding which student paper deserved the Best Student Paper Award. A special word of thanks is extended to Fabio Crestani, who has supported us from the very beginning of the bidding process.

We wish also to thank the companies and institutions who sponsored ECIR 2005: the Information Retrieval Specialist Group of the British Computer Society (BCS-IRSG), the University of Granada, the Council of European Professional Informatics Societies (CEPIS), Microsoft Research, Sharp Laboratories of Europe, Ltd., and the European Research Consortium for Informatics and Mathematics (ERCIM).

We would also like to thank the members of the Local Organizing Committee for their hard work over many months. They enthusiastically supported us in every small task related to the conference. Not all these persons may be visible to conference participants but the efforts of all are invaluable in making the conference a success.

Most of all, we would like to thank our wives, Maria and Nuria, for their endless patience and tolerance through the long hours dedicated to ECIR.

January 2005

David E. Losada
Juan M. Fernández-Luna

Organization

ECIR 2005 was organized by the University of Santiago de Compostela, with the collaboration of the University of Granada, and under the auspices of the Information Retrieval Specialist Group of the British Computer Society (BCS-IRSG).

Local Organizing Committee

Abraham Otero, University of Santiago de Compostela
Adolfo Riera, University of Santiago de Compostela
Alberto Bugarín, University of Santiago de Compostela
David López Moreno, University of Santiago de Compostela
Félix Díaz Hermida, University of Santiago de Compostela
José Luis Correa, University of Santiago de Compostela
Juan Carlos Vidal, University of Santiago de Compostela
Manuel Mucientes, University of Santiago de Compostela
María Pilar G. Souto, University of Santiago de Compostela
Paulo Félix, University of Santiago de Compostela
Purificación Cariñena, University of Santiago de Compostela
Roberto Iglesias, University of Santiago de Compostela

Programme Committee

David E. Losada, University of Santiago de Compostela, Spain (Chair)
Juan M. Fernández-Luna, University of Granada, Spain (Chair)

Andrew MacFarlane, City University London, United Kingdom
Alan Smeaton, Dublin City University, Ireland
Alvaro Barreiro, University of A Coruña, Spain
Anastasios Tombros, Queen Mary University of London, United Kingdom
Andreas Rauber, Vienna University of Technology, Austria
Arjen de Vries, CWI, Netherlands
Ayse Göker, Robert Gordon University, United Kingdom
Barry Smyth, University College Dublin, Ireland
Claudio Carpineto, Fondazione Ugo Bordoni, Italy
Djoerd Hiemstra, University of Twente, Netherlands
Dunja Mladenić, Jožef Stefan Institute, Slovenia
Eero Sormunen, University of Tampere, Finland
Enrique Herrera-Viedma, University of Granada, Spain
Fabio Crestani, University of Strathclyde, United Kingdom
Fabrizio Sebastiani, National Council of Research, Italy

VIII Organization

Gabriella Pasi, National Council of Research, Italy
Gareth Jones, Dublin City University, Ireland
Giambattista Amati, Fondazione Ugo Bordoni, Italy
Gloria Bordogna, National Council of Research, Italy
Henrik Nottelmann, University of Duisburg-Essen, Germany
Hugo Zaragoza, Microsoft Research, United Kingdom
Iadh Ounis, University of Glasgow, United Kingdom
Ian Ruthven, University of Strathclyde, United Kingdom
Jane Reid, Queen Mary University of London, United Kingdom
Jesús Vegas, University of Valladolid, Spain
Joe Carthy, University College Dublin, Ireland
Joemon Jose, University of Glasgow, United Kingdom
Josiane Mothe, Institut de Recherche en Informatique de Toulouse, France
Julio Gonzalo, UNED, Spain
Jussi Karlgren, Swedish Institute of Computer Science, Sweden
Kalervo Järvelin, University of Tampere, Finland
Kees Koster, Radboud University Nijmegen, Netherlands
Keith van Rijsbergen, University of Glasgow, United Kingdom
Leif Azzopardi, University of Glasgow, United Kingdom
Luis de Campos, University of Granada, Spain
Marcello Federico, ITC-irst, Italy
Margaret Graham, Northumbria University, United Kingdom
Mark Girolami, University of Glasgow, United Kingdom
Mark Sanderson, University of Sheffield, United Kingdom
Massimo Melucci, University of Padova, Italy
Matthew Chalmers, University of Glasgow, United Kingdom
Michael Oakes, University of Sunderland, United Kingdom
Micheline Beaulieu, University of Sheffield, United Kingdom
Mohand Boughanem, Université Paul Sabatier, France
Monica Landoni, University of Strathclyde, United Kingdom
Mounia Lalmas, Queen Mary University of London, United Kingdom
Norbert Fuhr, University of Duisburg-Essen, Germany
Peter Ingwersen, Royal School of Library and Information Science, Denmark
Pia Borlund, Royal School of Library and Information Science, Denmark
Ricardo Baeza-Yates, ICREA-Universitat Pompeu Fabra, Spain, and
University of Chile, Chile
Sándor Dominich, University of Veszprém, Hungary
Sharon McDonald, University of Sunderland, United Kingdom
Stavros Christodoulakis, Technical University of Crete, Greece
Thomas Roelleke, Queen Mary University of London, United Kingdom
Tony Rose, Cancer Research UK, United Kingdom
Ulrich Thiel, Fraunhofer IPSI, Germany
Umberto Straccia, National Council of Research, Italy
Victor Poznanski, Sharp Laboratories of Europe, United Kingdom
Wessel Kraaij, TNO TPD, Netherlands

Best Student Paper Award Committee

Fabio Crestani, University of Strathclyde, United Kingdom (Chair)
Giambattista Amati, Fondazione Ugo Bordoni, Italy
Pia Borlund, Royal School of Library and Information Science, Denmark

Additional Reviewers

Alessandro Moschitti, University of Rome “Tor Vergata”, Italy
Alex Bailey, Canon Research Centre Europe Ltd., United Kingdom
Amanda Spink, University of Pittsburgh, USA
Andreas Pesenhofer, Electronic Commerce Competence Center, Austria
Andrew Trotman, University of Otago, New Zealand
Antonio Ferrández, University of Alicante, Spain
Basilio Sierra, University of the Basque Country, Spain
Ben He, University of Glasgow, United Kingdom
Benjamin Piwowarski, University of Chile, Chile
Birger Larsen, Royal School of Library and Information Science, Denmark
Börkur Sigurbjörnsson, University of Amsterdam, Netherlands
Cathal Gurrin, Dublin City University, Ireland
Chris Stokoe, University of Sunderland, United Kingdom
Christof Monz, University of Maryland, USA
David Hull, Clairvoyance Corporation, USA
Dawei Song, Distributed Systems Technology Centre, Australia
Donald Metzler, University of Massachusetts, USA
Edda Leopold, Fraunhofer Gesellschaft, Germany
Edie Rasmussen, University of British Columbia, Canada
Fabio M. Zanzotto, University of Milano-Bicocca, Italy
Fernando Diaz, Center for Intelligent Information Retrieval,
University of Massachusetts, USA
Fernando Llopis, University of Alicante, Spain
Fidel Cacheda, University of A Coruña, Spain
Filippo Portera, University of Padova, Italy
Franciska de Jong, University of Twente, Netherlands
Gabriella Kazai, Queen Mary University of London, United Kingdom
Giorgio M. Di Nunzio, University of Padova, Italy
Hyowon Lee, Dublin City University, Ireland
Jamie Callan, Carnegie Mellon University, USA
Jean-Pierre Chevallet, CLIPS-IMAG, France
Jesper Schneider, Royal School of Library and Information Science, Denmark
Jian-Yun Nie, University of Montreal, Canada
José M. Gómez Hidalgo, Universidad Europea de Madrid, Spain
Juan Huete, University of Granada, Spain
Leonardo Candela, National Council of Research, Italy
Luo Si, Carnegie Mellon University, USA

Manuel Lama Penín, University of Santiago de Compostela, Spain
Miguel A. Alonso, University of A Coruña, Spain
Nicola Orio, University of Padova, Italy
Oscar Cordón, University of Granada, Spain
Pablo de la Fuente, University of Valladolid, Spain
Pasquale Savino, National Council of Research, Italy
Patrick Gallinari, Université Pierre et Marie Curie, France
Patrick Ruch, University Hospitals of Geneva, Switzerland
Pavel Calado, INESC-ID, Portugal
Pertti Vakkari, University of Tampere, Finland
Rafael Berlanga, Universitat Jaume I, Spain
Roberto Basili, University of Rome “Tor Vergata”, Italy
Roi Blanco, University of A Coruña, Spain
Ross Wilkinson, CSIRO, Australia
Ryen White, University of Maryland, USA
Theodora Tsikrika, Queen Mary University of London, United Kingdom
Toni Rath, Center for Intelligent Information Retrieval,
University of Massachusetts, USA
Vanessa Murdock, Center for Intelligent Information Retrieval,
University of Massachusetts, USA
Vassilis Plachouras, University of Glasgow, United Kingdom
Xiaoyong Liu, Center for Intelligent Information Retrieval,
University of Massachusetts, USA

Sponsoring Institutions



INFORMATION RETRIEVAL
SPECIALIST GROUP



Lecture Notes in Computer Science

For information about Vols. 1–3321

please contact your bookseller or Springer

- Vol. 3452: F. Baader, A. Voronkov (Eds.), Logic Programming, Artificial Intelligence, and Reasoning. XI, 562 pages. 2005. (Subseries LNAI).
- Vol. 3436: B. Bouyssounouse, J. Sifakis (Eds.), Embedded Systems Design. XV, 492 pages. 2005.
- Vol. 3418: U. Brandes, T. Erlebach (Eds.), Network Analysis. XII, 471 pages. 2005.
- Vol. 3416: M. Böhlen, J. Gamper, W. Polasek, M.A. Wimmer (Eds.), E-Government: Towards Electronic Democracy. XIII, 311 pages. 2005. (Subseries LNAI).
- Vol. 3415: P. Davidsson, B. Logan, K. Takadama (Eds.), Multi-Agent and Multi-Agent-Based Simulation. X, 265 pages. 2005. (Subseries LNAI).
- Vol. 3414: M. Morari, L. Thiele (Eds.), Hybrid Systems: Computation and Control. XII, 684 pages. 2005.
- Vol. 3412: X. Franch, D. Port (Eds.), COTS-Based Software Systems. XVI, 312 pages. 2005.
- Vol. 3411: S.H. Myaeng, M. Zhou, K.-F. Wong, H.-J. Zhang (Eds.), Information Retrieval Technology. XIII, 337 pages. 2005.
- Vol. 3410: C.A. Coello Coello, A. Hernández Aguirre, E. Zitzler (Eds.), Evolutionary Multi-Criterion Optimization. XVI, 912 pages. 2005.
- Vol. 3409: N. Guelfi, G. Reggio, A. Romanovsky (Eds.), Scientific Engineering of Distributed Java Applications. X, 127 pages. 2005.
- Vol. 3408: D.E. Losada, J.M. Fernández-Luna (Eds.), Advances in Information Retrieval. XVII, 572 pages. 2005.
- Vol. 3406: A. Gelbukh (Ed.), Computational Linguistics and Intelligent Text Processing. XVII, 829 pages. 2005.
- Vol. 3404: V. Diekert, B. Durand (Eds.), STACS 2005. XVI, 706 pages. 2005.
- Vol. 3403: B. Ganter, R. Godin (Eds.), Formal Concept Analysis. XI, 419 pages. 2005. (Subseries LNAI).
- Vol. 3401: Z. Li, L. Volkov, J. Waśniewski (Eds.), Numerical Analysis and Its Applications. XIII, 630 pages. 2005.
- Vol. 3398: D.-K. Baik (Ed.), Systems Modeling and Simulation: Theory and Applications. XIV, 733 pages. 2005. (Subseries LNAI).
- Vol. 3397: T.G. Kim (Ed.), Artificial Intelligence and Simulation. XV, 711 pages. 2005. (Subseries LNAI).
- Vol. 3396: R.M. van Eijk, M.-P. Huget, F. Dignum (Eds.), Agent Communication. X, 261 pages. 2005. (Subseries LNAI).
- Vol. 3395: J. Grabowski, B. Nielsen (Eds.), Formal Approaches to Software Testing. X, 225 pages. 2005.
- Vol. 3394: D. Kudenko, D. Kazakov, E. Alonso (Eds.), Adaptive Agents and Multi-Agent Systems III. IIX, 313 pages. 2005. (Subseries LNAI).
- Vol. 3393: H.-J. Kreowski, U. Montanari, F. Orejas, G. Rozenberg, G. Taentzer (Eds.), Formal Methods in Software and Systems Modeling. XXVII, 413 pages. 2005.
- Vol. 3391: C. Kim (Ed.), Information Networking. XVII, 936 pages. 2005.
- Vol. 3390: R. Choren, A. Garcia, C. Lucena, A. Romanovsky (Eds.), Software Engineering for Multi-Agent Systems III. XII, 291 pages. 2005.
- Vol. 3389: P. Van Roy (Ed.), Multiparadigm Programming in Mozart/OZ. XV, 329 pages. 2005.
- Vol. 3388: J. Lagergren (Ed.), Comparative Genomics. VIII, 133 pages. 2005. (Subseries LNBI).
- Vol. 3387: J. Cardoso, A. Sheth (Eds.), Semantic Web Services and Web Process Composition. VIII, 147 pages. 2005.
- Vol. 3386: S. Vaudenay (Ed.), Public Key Cryptography - PKC 2005. IX, 436 pages. 2005.
- Vol. 3385: R. Cousot (Ed.), Verification, Model Checking, and Abstract Interpretation. XII, 483 pages. 2005.
- Vol. 3383: J. Pach (Ed.), Graph Drawing. XII, 536 pages. 2005.
- Vol. 3382: J. Odell, P. Giorgini, J.P. Müller (Eds.), Agent-Oriented Software Engineering V. X, 239 pages. 2005.
- Vol. 3381: P. Vojtáš, M. Bieliková, B. Charron-Bost, O. Sýkora (Eds.), SOFSEM 2005: Theory and Practice of Computer Science. XV, 448 pages. 2005.
- Vol. 3379: M. Hemmje, C. Niederee, T. Risse (Eds.), From Integrated Publication and Information Systems to Information and Knowledge Environments. XXIV, 321 pages. 2005.
- Vol. 3378: J. Kilian (Ed.), Theory of Cryptography. XII, 621 pages. 2005.
- Vol. 3377: B. Goethals, A. Siebes (Eds.), Knowledge Discovery in Inductive Databases. VII, 190 pages. 2005.
- Vol. 3376: A. Menezes (Ed.), Topics in Cryptology – CT-RSA 2005. X, 385 pages. 2004.
- Vol. 3375: M.A. Marsan, G. Bianchi, M. Listanti, M. Meo (Eds.), Quality of Service in Multiservice IP Networks. XIII, 656 pages. 2005.
- Vol. 3374: D. Weijns, H.V.D. Parunak, F. Michel (Eds.), Environments for Multi-Agent Systems. X, 279 pages. 2005. (Subseries LNAI).
- Vol. 3372: C. Bussler, V. Tannen, I. Fundulaki (Eds.), Semantic Web and Databases. X, 227 pages. 2005.
- Vol. 3370: A. Konagaya, K. Satou (Eds.), Grid Computing in Life Science. X, 187 pages. 2005. (Subseries LNBI).

- Vol. 3369: V.R. Benjamins, P. Casanovas, J. Breuker, A. Gangemi (Eds.), Law and the Semantic Web. XII, 249 pages. 2005. (Subseries LNAI).
- Vol. 3368: L. Paletta, J.K. Tsotsos, E. Rome, G.W. Humphreys (Eds.), Attention and Performance in Computational Vision. VIII, 231 pages. 2005.
- Vol. 3366: I. Rahwan, P. Moraitis, C. Reed (Eds.), Argumentation in Multi-Agent Systems. XII, 263 pages. 2005. (Subseries LNAI).
- Vol. 3365: G. Mauri, G. Păun, M.J. Pérez-Jiménez, G. Rozenberg, A. Salomaa (Eds.), Membrane Computing. IX, 415 pages. 2005.
- Vol. 3363: T. Eiter, L. Libkin (Eds.), Database Theory - ICDT 2005. XI, 413 pages. 2004.
- Vol. 3362: G. Barthe, L. Burdy, M. Huisman, J.-L. Lanet, T. Muntean (Eds.), Construction and Analysis of Safe, Secure, and Interoperable Smart Devices. IX, 257 pages. 2005.
- Vol. 3361: S. Bengio, H. Bourlard (Eds.), Machine Learning for Multimodal Interaction. XII, 362 pages. 2005.
- Vol. 3360: S. Spaccapietra, E. Bertino, S. Jajodia, R. King, D. McLeod, M.E. Orlowska, L. Strous (Eds.), Journal on Data Semantics II. XI, 223 pages. 2005.
- Vol. 3359: G. Grieser, Y. Tanaka (Eds.), Intuitive Human Interfaces for Organizing and Accessing Intellectual Assets. XIV, 257 pages. 2005. (Subseries LNAI).
- Vol. 3358: J. Cao, L.T. Yang, M. Guo, F. Lau (Eds.), Parallel and Distributed Processing and Applications. XXIV, 1058 pages. 2004.
- Vol. 3357: H. Handschuh, M.A. Hasan (Eds.), Selected Areas in Cryptography. XI, 354 pages. 2004.
- Vol. 3356: G. Das, V.P. Gulati (Eds.), Intelligent Information Technology. XII, 428 pages. 2004.
- Vol. 3355: R. Murray-Smith, R. Shorten (Eds.), Switching and Learning in Feedback Systems. X, 343 pages. 2005.
- Vol. 3353: J. Hromkovič, M. Nagl, B. Westfechtel (Eds.), Graph-Theoretic Concepts in Computer Science. XI, 404 pages. 2004.
- Vol. 3352: C. Blundo, S. Cimato (Eds.), Security in Communication Networks. XI, 381 pages. 2005.
- Vol. 3351: G. Persiano, R. Solis-Oba (Eds.), Approximation and Online Algorithms. VIII, 295 pages. 2005.
- Vol. 3350: M. Hermenegildo, D. Cabeza (Eds.), Practical Aspects of Declarative Languages. VIII, 269 pages. 2005.
- Vol. 3349: B.M. Chapman (Ed.), Shared Memory Parallel Programming with Open MP. X, 149 pages. 2005.
- Vol. 3348: A. Canteaut, K. Viswanathan (Eds.), Progress in Cryptology - INDOCRYPT 2004. XIV, 431 pages. 2004.
- Vol. 3347: R.K. Ghosh, H. Mohanty (Eds.), Distributed Computing and Internet Technology. XX, 472 pages. 2004.
- Vol. 3346: R.H. Bordini, M. Dastani, J. Dix, A.E.F. Seghrouchni (Eds.), Programming Multi-Agent Systems. XIV, 249 pages. 2005. (Subseries LNAI).
- Vol. 3345: Y. Cai (Ed.), Ambient Intelligence for Scientific Discovery. XII, 311 pages. 2005. (Subseries LNAI).
- Vol. 3344: J. Malenfant, B.M. Østvold (Eds.), Object-Oriented Technology. ECOOP 2004 Workshop Reader. VIII, 215 pages. 2005.
- Vol. 3343: C. Freksa, M. Knauff, B. Krieg-Brückner, B. Nebel, T. Barkowsky (Eds.), Spatial Cognition IV. Reasoning, Action, and Interaction. XIII, 519 pages. 2005. (Subseries LNAI).
- Vol. 3342: E. Şahin, W.M. Spears (Eds.), Swarm Robotics. IX, 175 pages. 2005.
- Vol. 3341: R. Fleischer, G. Trippen (Eds.), Algorithms and Computation. XVII, 935 pages. 2004.
- Vol. 3340: C.S. Calude, E. Calude, M.J. Dinneen (Eds.), Developments in Language Theory. XI, 431 pages. 2004.
- Vol. 3339: G.I. Webb, X. Yu (Eds.), AI 2004: Advances in Artificial Intelligence. XXII, 1272 pages. 2004. (Subseries LNAI).
- Vol. 3338: S.Z. Li, J. Lai, T. Tan, G. Feng, Y. Wang (Eds.), Advances in Biometric Person Authentication. XVIII, 699 pages. 2004.
- Vol. 3337: J.M. Barreiro, F. Martin-Sánchez, V. Maojo, F. Sanz (Eds.), Biological and Medical Data Analysis. XI, 508 pages. 2004.
- Vol. 3336: D. Karagiannis, U. Reimer (Eds.), Practical Aspects of Knowledge Management. X, 523 pages. 2004. (Subseries LNAI).
- Vol. 3335: M. Malek, M. Reitenspieß, J. Kaiser (Eds.), Service Availability. X, 213 pages. 2005.
- Vol. 3334: Z. Chen, H. Chen, Q. Miao, Y. Fu, E. Fox, E.-p. Lim (Eds.), Digital Libraries: International Collaboration and Cross-Fertilization. XX, 690 pages. 2004.
- Vol. 3333: K. Aizawa, Y. Nakamura, S. Satoh (Eds.), Advances in Multimedia Information Processing - PCM 2004, Part III. XXXV, 785 pages. 2004.
- Vol. 3332: K. Aizawa, Y. Nakamura, S. Satoh (Eds.), Advances in Multimedia Information Processing - PCM 2004, Part II. XXXVI, 1051 pages. 2004.
- Vol. 3331: K. Aizawa, Y. Nakamura, S. Satoh (Eds.), Advances in Multimedia Information Processing - PCM 2004, Part I. XXXVI, 667 pages. 2004.
- Vol. 3330: J. Akiyama, E.T. Baskoro, M. Kano (Eds.), Combinatorial Geometry and Graph Theory. VIII, 227 pages. 2005.
- Vol. 3329: P.J. Lee (Ed.), Advances in Cryptology - ASIACRYPT 2004. XVI, 546 pages. 2004.
- Vol. 3328: K. Lodaya, M. Mahajan (Eds.), FSTTCS 2004: Foundations of Software Technology and Theoretical Computer Science. XVI, 532 pages. 2004.
- Vol. 3327: Y. Shi, W. Xu, Z. Chen (Eds.), Data Mining and Knowledge Management. XIII, 263 pages. 2005. (Subseries LNAI).
- Vol. 3326: A. Sen, N. Das, S.K. Das, B.P. Sinha (Eds.), Distributed Computing - IWDC 2004. XIX, 546 pages. 2004.
- Vol. 3325: C.H. Lim, M. Yung (Eds.), Information Security Applications. XI, 472 pages. 2005.
- Vol. 3323: G. Antoniou, H. Boley (Eds.), Rules and Rule Markup Languages for the Semantic Web. X, 215 pages. 2004.
- Vol. 3322: R. Klette, J. Žunić (Eds.), Combinatorial Image Analysis. XII, 760 pages. 2004.

Table of Contents

Keynote Papers

- A Probabilistic Logic for Information Retrieval
C.J. 'Keith' van Rijsbergen 1

- Applications of Web Query Mining
Ricardo Baeza-Yates 7

Peer-to-Peer

- BuddyNet: History-Based P2P Search
Yilei Shao, Randolph Wang 23

- A Suite of Testbeds for the Realistic Evaluation of Peer-to-Peer Information Retrieval Systems
Iraklis A. Klampanos, Victor Poznański, Joemon M. Jose, Peter Dickman 38

- Federated Search of Text-Based Digital Libraries in Hierarchical Peer-to-Peer Networks
Jie Lu, Jamie Callan 52

Information Retrieval Models (I)

- 'Beauty' of the World Wide Web—Cause, Goal, or Principle
Sándor Dominich, Júlia Góth, Mária Horváth, Tamás Kiezer 67

- sPLMap: A Probabilistic Approach to Schema Matching
Henrik Nottelmann, Umberto Straccia 81

- Encoding XML in Vector Spaces
Vinay Kakade, Prabhakar Raghavan 96

Text Summarization

- Features Combination for Extracting Gene Functions from MEDLINE
Patrick Ruch, Laura Perret, Jacques Savoy 112

XIV Table of Contents

Filtering for Profile-Biased Multi-document Summarization <i>Sana Leila Châar, Olivier Ferret, Christian Fluhr</i>	127
Automatic Text Summarization Based on Word-Clusters and Ranking Algorithms <i>Massih R. Amini, Nicolas Usunier, Patrick Gallinari</i>	142
Comparing Topiary-Style Approaches to Headline Generation <i>Ruichao Wang, Nicola Stokes, William P. Doran, Eamonn Newman, Joe Carthy, John Dunnion</i>	157
Information Retrieval Methods (I)	
Improving Retrieval Effectiveness by Using Key Terms in Top Retrieved Documents <i>Lingpeng Yang, Donghong Ji, Guodong Zhou, Yu Nie</i>	169
Evaluating Relevance Feedback Algorithms for Searching on Small Displays <i>Vishwa Vinay, Ingemar J. Cox, Natasa Milic-Frayling, Ken Wood</i>	185
Term Frequency Normalisation Tuning for BM25 and DFR Models <i>Ben He, Iadh Ounis</i>	200
Information Retrieval Models (II)	
Improving the Context-Based Influence Diagram Model for Structured Document Retrieval: Removing Topological Restrictions and Adding New Evaluation Methods <i>Luis M. de Campos, Juan M. Fernández-Luna, Juan F. Huete</i>	215
Knowing-Aboutness: Question-Answering Using a Logic-Based Framework <i>Terence Clifton, William Teahan</i>	230
Modified LSI Model for Efficient Search by Metric Access Methods <i>Tomáš Skopal, Pavel Moravec</i>	245
PIRE: An Extensible IR Engine Based on Probabilistic Datalog <i>Henrik Nottelmann</i>	260

Text Classification and Fusion

Data Fusion with Correlation Weights <i>Shengli Wu, Sally McClean</i>	275
Using Restrictive Classification and Meta Classification for Junk Elimination <i>Stefan Siersdorfer, Gerhard Weikum</i>	287
On Compression-Based Text Classification <i>Yuval Marton, Ning Wu, Lisa Hellerstein</i>	300

User Studies and Evaluation

Ontology as a Search-Tool: A Study of Real Users' Query Formulation With and Without Conceptual Support <i>Sari Suomela, Jaana Kekäläinen</i>	315
An Analysis of Query Similarity in Collaborative Web Search <i>Evelyn Balfe, Barry Smyth</i>	330
A Probabilistic Interpretation of Precision, Recall and <i>F</i> -Score, with Implication for Evaluation <i>Cyril Goutte, Eric Gaussier</i>	345
Exploring Cost-Effective Approaches to Human Evaluation of Search Engine Relevance <i>Kamal Ali, Chi-Chao Chang, Yunfang Juan</i>	360

Information Retrieval Methods (II)

Document Identifier Reassignment Through Dimensionality Reduction <i>Roi Blanco, Álvaro Barreiro</i>	375
Scalability Influence on Retrieval Models: An Experimental Methodology <i>Amélie Imafouo, Michel Beigbeder</i>	388
The Role of Multi-word Units in Interactive Information Retrieval <i>Olga Vechtomova</i>	403
Dictionary-Based CLIR Loses Highly Relevant Documents <i>Raija Lehtokangas, Heikki Keskustalo, Kalervo Järvelin</i>	421

Multimedia Retrieval

Football Video Segmentation Based on Video Production Strategy <i>Reede Ren, Joemon M. Jose</i>	433
Fractional Distance Measures for Content-Based Image Retrieval <i>Peter Howarth, Stefan Rüger</i>	447
Combining Visual Semantics and Texture Characterizations for Precision-Oriented Automatic Image Retrieval <i>Mohammed Belkhatir</i>	457

Web Information Retrieval

Applying Associative Relationship on the Clickthrough Data to Improve Web Search <i>Xue-Mei Jiang, Wen-Guan Song, Hua-Jun Zeng</i>	475
Factors Affecting Web Page Similarity <i>Anastasios Tombros, Zeeshan Ali</i>	487
Boosting Web Retrieval Through Query Operations <i>Gilad Mishne, Maarten de Rijke</i>	502

Posters

Terrier Information Retrieval Platform <i>Iadh Ounis, Gianni Amati, Vassilis Plachouras, Ben He, Craig Macdonald, Douglas Johnson</i>	517
Físréal: A Low Cost Terabyte Search Engine <i>Paul Ferguson, Cathal Gurrin, Peter Wilkins, Alan F. Smeaton</i>	520
Query Formulation for Answer Projection <i>Gilad Mishne, Maarten de Rijke</i>	523
Network Analysis for Distributed Information Retrieval Architectures <i>Fidel Cacheda, Victor Carneiro, Vassilis Plachouras, Iadh Ounis</i>	527
SnapToTell: A Singapore Image Test Bed for Ubiquitous Information Access from Camera <i>Jean-Pierre Chevallet, Joo-Hwee Lim, Ramnath Vasudha</i>	530