Lecture Notes in Computer Science 3136

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

Editorial Board

Farid Meziane   Elisabeth Métais (Eds.)

Natural Language Processing and Information Systems

9th International Conference on Applications
of Natural Language to Information Systems, NLDB 2004
Salford, UK, June 23-25, 2004
Proceedings

Springer

Volume Editors

Farid Meziane
University of Salford, School of Computing, Science and Engineering
Newton Building, Salford M5 4WT, UK
E-mail: f.meziane@salford.ac.uk

Elisabeth Métais
Laboratoire CEDRIC, CNAM
292 rue Saint Martin, 75141 Paris cedex 3, France
E-mail: elsa@cnam.fr

Preface

Welcome to NLDB04, the Ninth International Conference on the Application of Natural Language to Information Systems, held at the University of Salford, UK during June 23-25, 2004. NLDB04 follows on the success of previous conferences held since 1995. Early conferences then known as Application of Natural Language to Databases, hence the acronym NLDB, were used as a forum to discuss and disseminate research on the integration of natural language and databases and were mainly concerned with natural language based queries, database modelling and user interfaces that facilitate access to information. The conference has since moved to encompass all aspects of Information Systems and Software Engineering. Indeed, the use of natural language in systems modelling has greatly improved the development process and benefited both developers and users at all stages of the software development process.

The latest developments in the field of natural language and the emergence of new technologies has seen a shift towards storage of large semantic electronic dictionaries, their exploitation and the advent of what is now known as the semantic web. Information extraction and retrieval, document and content management, ontology development and management and natural language conversational systems are becoming regular tracks in the last NLDB conferences.

NLDB04 has seen a 50% increase in the number of submissions and has established itself as one of the leading conferences in the area of applying natural language to information systems in its broader sense. The quality of the submissions and their diversity have made the members of the program committee work more then usual. 65 papers were submitted from 22 different countries. 29 were accepted as regular papers, while 13 were accepted as short papers. The papers were classified as belonging to one of these themes:

- Natural Language Conversational Systems
- Intelligent Querying
- Linguistic Aspects of Modeling
- Information Retrieval
- Natural Language Text Understanding
- Knowledge Bases
- Natural Language Text Understanding
- Knowledge Management
- Content Management

This year we were honored by the presence of our invited speaker Fabio Ciravegna from the University of Sheffield, United Kingdom. His lecture on "Challenges in Harvesting Information for the Semantic Web" was highly appreciated and initiated vivid discussions.

We are very thankful for the opportunity to serve as Program Chair and Conference Chair for this conference. However, the organization of such event is a collective effort and a team work. First of all we would like to thank the members of the Program Committee for the time and effort they devoted to the reviewing of the submit-

ted articles and to the selection process. My thanks go also to the additional reviewers for their help and support. We would like to take this opportunity to thank the local organizing committee, especially its chairman Sunil Vadera, for their superb work. We would like to thank Nigel Linge the head of the School of Computing Science and Engineering, Tim Ritchings the head of the Computer Science, Multimedia and Telecommunication discipline and Mr. Gary Wright from the External Relations Division for their help and support.

Obviously we thank the authors for their high quality submissions and their participation to this event and their patience during the long reviewing process.

June 2004   Farid Meziane
                                                                        Elisabeth Métais

Organization

Conference Chair

Elisabeth Métais, Conservatoire National des Arts et Métiers de Paris, France.

Program Committee Chair

Farid Meziane, University of Salford, UK.

Program Committee

1. Diego Mollá Aliod, Macquarie University, Australia
2. Kenji Araki, Hokkaido University, Japan
3. Mokrane Bouzeghoub, PRiSM, Université de Versailles, France
4. Fabio Ciravegna, University of Sheffield, UK
5. Gary A Coen, Boeing, USA
6. Isabelle Comyn-Wattiau, CEDRIC/CNAM, France
7. Antje Düsterhöft, University of Wismar, Germany
8. Günther Fliedl, Universität Klagenfurt, Austria
9. Alexander Gelbukh, Instituto Politecnico Nacional, Mexico
10. Nicola Guarino, CNR, Italy
11. Rafael Muñoz Guillena, Universidad de Alicante, Spain
12. Jon Atle Gulla, Norwegian University of Science and Technology, Norway
13. Harmain Harmain, United Arab Emirates University, UAE
14. Helmut Horacek, Universität des Saarlandes, Germany
15. Paul Johannesson, Stockholm University, Sweden
16. Zoubida Kedad, PRiSM, Université de Versailles, France
17. Leila Kosseim, Concordia University, Canada.
18. Nadira Lammari, CEDRIC/CNAM, France
19. Winfried Lenders, Universität Bonn, Germany
20. Jana Lewerenz, sd&m Düsseldorf, Germany
21. Robert Luk, Hong Kong Polytechnic University, Hong Kong
22. Heinrich C. Mayr, Universität Klagenfurt, Austria
23. Paul McFetridge, Simon Frazer University, Canada
24. Elisabeth Metais, CEDRIC/CNAM , France
25. Farid Meziane, Salford University, UK
26. Luisa Mich, University of Trento, Italy.
27. Ana Maria Moreno, Universidad Politecnica de Madrid, Spain
28. Jian-Yun Nie, Université de Montréal, Canada
29. Manual Palomar, Universidad de Alicante, Spain
30. Odile Piton, Université Paris I Panthéon-Sorbonne, France
31. Reind van de Riet, Vrije Universiteit Amsterdam, The Netherlands

32. Hae-Chang Rim, Korea University, Korea
33. Tim Ritchings, University of Salford, UK
34. Hongchi Shi, University of Missouri-Columbia, USA
35. Niculae Stratica, Concordia University, Canada
36. Vijay Sugumaran, Oakland University Rochester, USA
37. Veda Storey, Georgia State University, USA
38. Lua Km Teng, National University of Singapore, Singapore
39. Bernhard Thalheim, Kiel University, Germany
40. Babis Theodoulidis, UMIST, UK
41. Sunil Vadera, University of Salford, UK
42. Ronald Wagner, University of Linz, Austria
43. Hans Weigand, Tilburg University, The Netherlands
44. Werner Winiwarter, University of Vienna, Austria
45. Stanislaw Wrycza, University of Gdansk, Poland

Additional Reviewers

1. Farida Aoughlis, University of Tizi-Ouzou, Algeria
2. Andrew Basden, University of Salford, UK.
3. Frances Bell, University of Salford, UK
4. Maria Bergholtz, Stockholm University, Sweden
5. Aleksander Binemann-Zdanowicz, Kiel University, Germany
6. Antonio Ferrández, Universidad de Alicante, Spain
7. Laura Compoy-Gomez, University of Salford, UK
8. Fiedler Gunar, Kiel University, Germany
9. Maria Kutar, University of Salford, UK.
10. Didier Nakache, CNAM, France.
11. Alessandro Oltramari, CNR, Italy
12. Peggy Schmidt, Kiel University, Germany

Organizing Committee

1. Sunil Vadera (Chair), University of Salford, UK.
2. Farid Meziane, University of Salford, UK.
3. Samia Nefti, University of Salford, UK.
4. Mohamad Saraee, University of Salford, UK.
5. Edwin Mit, University of Salford, UK.

Organization Website and Contact

The conference was organized by the Computer Science Research Centre and the School of Computing, Science and Engineering at the University of Salford, United Kingdom. The website of the NLDB Conference is www.nldb.org. For all information, contact Farid Meziane at F.Meziane@salford.ac.uk

Table of Contents

Linguistic Aspects of Modeling

Information Retrieval

Natural Language Text Understanding

Knowledge Bases

Natural Language Text Understanding

Knowledge Management

Short Papers

Content Management

Information Retrieval

Intelligent Querying

Author Index