Lecture Notes in Artificial Intelligence 6880

Subseries of Lecture Notes in Computer Science

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Case-Based Reasoning Research and Development

19th International Conference
on Case-Based Reasoning, ICCBR 2011
London, UK, September 12-15, 2011
Proceedings

Springer

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ISSN 0302-9743 e-ISSN 1611-3349
ISBN 978-3-642-23290-9 e-ISBN 978-3-642-23291-6
DOI 10.1007/978-3-642-23291-6
Springer Heidelberg Dordrecht London New York

Library of Congress Control Number: 2011934745

CR Subject Classification (1998): I.2, H.3, H.4, H.5, J.1, H.2.8

LNCS Sublibrary: SL 7 – Artificial Intelligence

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Typesetting: Camera-ready by author, data conversion by Scientific Publishing Services, Chennai, India

Printed on acid-free paper

Springer is part of Springer Science+Business Media (www.springer.com)

Preface

This volume contains the papers presented at ICCBR 2011: 19th International Conference on Case-Based Reasoning (http://www.iccbr.org/iccbr11/) held during September 11–14, 2011 in Greenwich, London. There were 67 submissions. Each submission was reviewed by at least three Program Committee members. The committee decided to accept 32 papers following a highly selective process. Of these papers, 22 were selected for oral presentation and 10 papers for poster presentation. Each submission was identified as fitting either the technical or applied stream and judged using the following criteria: relevance, significance, originality, technical quality and clarity. Scientific research formed the basis of judgement for technical paper significance and the social, economic or other commercial impact formed the basis of judgement for applied paper significance. The program also contained three invited talks which are included in this volume.

The International Conference on Case-Based Reasoning (ICCBR) is the preeminent international meeting on case-based reasoning (CBR). Previous ICCBR conferences have been held in Sesimbra, Portugal (1995), Providence, USA (1997), Seeon Monastery, Germany (1999), Vancouver, Canada (2001), Trondheim, Norway (2003), Chicago, USA (2005), Belfast, UK (2007), Seattle, USA (2009) and most recently in Alessandria, Italy (2010).

Day 1 of ICCBR 2011, Industry Day, provided hands-on experiences of using CBR in cutting-edge applications (e.g., a lessons learned system for the UK Health & Safety Laboratory, the History of 12 CBR systems at General Electric, CBR applications at the German Association of Machinery Manufacturers and a service report-based CBR approach to machine diagnosis). A key highlight was the invited talk on the Watson question answering system presented by William Murdock from IBM. This talk discussed how structure mapping (an algorithm originally developed for analogical reasoning) is applied to determine similarity between content in questions and passages. Another highlight was the third Annual Doctoral Consortium (DC) event which involved presentations by 11 research students in collaboration with their respective senior CBR research mentors. Day 2 featured topical workshops on CBR and the computer games industry, CBR and augmentation, different forms of CBR including process-oriented, cognitive and human-centered forms. These were complemented with the popular full-day live computer-cooking contest workshop with a new focus on adaptation and an open-feature challenge. Days 3 and 4 comprised presentations and posters on technical and applied CBR papers, as well as invited talks from two distinguished scholars: Kris Hammond, Northwestern University and Steffen Staab, University of Koblenz-Landau. Kris Hammond explored how the CBR core view of "Reasoning as Remembering" can be transformed into "Reasoning as Search" to enable the integration of Web resources within two CBR systems.

Steffen Staab, in his talk, discussed the role of similarity metrics for reasoning with ontologies and the resulting integration challenges therein.

The presentations and posters covered a wide range of CBR topics of interest both to practitioners and researchers, including CBR methodology covering case representation, similarity, retrieval, and adaptation; provenance and maintenance; recommender systems; multi-agent collaborative systems; data mining; time series analysis; Web applications; knowledge management; legal reasoning; healthcare systems and planning systems.

Many people participated in making ICCBR 2011 a success. Miltos Petridis, University of Brighton, UK, served as Conference Chair, with Nirmalie Wiratunga, Robert Gordon University, UK, and Ashwin Ram, Georgia Institute of Technology, USA, as Program Co-chairs. We would especially like to thank Belen Diaz Agudo, Complutense de Madrid, Spain, and Amelie Cordier, University Claude Bernard, France, for serving as Workshop Coordinators and Ian Watson, University of Auckland, for chairing Industry Day. We wish to thank David W. Aha for organizing the valuable doctoral consortium and seeking conference support funds for this event from the Office of Naval Research Global (ONRG). We are very grateful for the generous support of the sponsors of ICCBR 2011: Attensity for student bursaries in support of the computer cooking contest and to Amelie Cordier for organizing the contest; the University of Greenwich for administration and local area support and the British Computer Society for helping with registration packs.

We thank the Program Committee and all our additional reviewers for their thoughtful and timely participation in the paper selection process. We acknowledge the time and effort put in by the members of the Local Organizing Committee at the University of Greenwich, including all student helpers and in particular Liz Bacon, our Local Chair. Finally, we appreciate the support provided by EasyChair in the management of this conference and thank Springer for its continuing support in publishing the proceedings of ICCBR.

September 2011

Ashwin Ram
Nirmalie Wiratunga

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