Report on the Seventh International Conference on Case-Based Reasoning

Rosina Weber

■ This article reports on the activities, papers, speakers, and workshops of the Seventh International Conference on Case-Based Reasoning, held 13–16 August in Belfast, Northern Ireland.

ICCBR 2007, the Seventh International Conference on Case-Based Reasoning, was held in the joyful city of Belfast, Northern Ireland, UK. Our host in Belfast was David Patterson from the University of Ulster. The 2007 program attempted to open the field's frontiers by inviting speakers from neighboring areas and insiders who could expand the vision of the attending case-based reasoning (CBR) researchers and practitioners.

The Invited Speakers

An introspective talk, given by David W. Aha (Naval Research Lab, USA) kicked off the event, making attendees question how case-based reasoning is perceived by the outside world and the balance between theoretical foundations and applied research. His talk, "Addressing Perceptions of Case-Based Reasoning," set the tone for discussions throughout the conference.[1] Larry Kerschberg (George Mason University, USA), a database native, shared his perspectives on how CBR can interact with database research and applications. Kerschberg also shared the case of databases as a

field, questioning whether CBR should pursue that strategic destiny. Bernadette Bouchon-Meunier (Université Pierre et Marie Curie, France) spoke about similarity, analogy, and case-based reasoning, revitalizing the interest in uncertainty and in the mathematical foundations of CBR. Eva Armengol (Artificial Intelligence Research Institute, Spain) adopted the bias of CBR as a machine-learning technique to expand our understanding of usages of generalization in CBR, in particular for explanations. Hans-Dieter Burkhard (Humboldt University, Germany) in his talk "Cases in Robotic Soccer," reminded the audience of the potential relevance of CBR in robotic soccer, a theme that is full of challenges for CBR.

The Papers

The technical program consisted of fifteen papers and eighteen posters. They are all included in the proceedings published by Springer.[2]

The first oral session included contributions in textual CBR, logic-based adaptation, and selection of cases for deletion to increase overall retrieval accuracy. The second oral session grouped applied research papers on areas such as image analysis, software engineering, biomedicine, workflow management, and group recommendation for an online radio, by Claudio Baccigalupo and Enric Plaza. Their application paper, proposing a me-

thod to recommend songs for an online radio, presented innovative methods for all steps of the CBR cycle, receiving the best application paper award. The third oral session grouped papers on learning, adaptation, planning, and case provenance, a new research focus introduced by David Leake and Matthew Whitehead. Their paper, proposing the examination of the provenance of a case as an alternative when feedback for revision is not available, won the best research paper prize.

The poster session displayed an extraordinary selection of high-quality papers, selected as posters mostly due to the recommendation of reviewers that those papers were likely to attract the attention of smaller individual groups rather than the entire audience. Overall, the papers reflected three aspects: (1) CBR is fast becoming a discipline with clearly visible characteristics; (2) there are plenty of opportunities for innovations; and (3) CBR is sufficiently mature to radically affect application environments.

The Workshops

Led by David C. Wilson (University of North Carolina, USA) and Deepak Khemani (IIT Madras, India), five workshops were held whose attendance and acceptance showed that workshops are a very useful vehicle to discuss work in progress. The workshop proceedings can be downloaded from the conference site.[3] Workshop chairs presented summaries to the overall audience. The workshops in this year's program were Case-Based Reasoning and Context-Awareness, Case-Based Reasoning in the Health Sciences, Textual Case-Based Reasoning: Beyond Retrieval, Uncertainty and Fuzziness in Case-Based Reasoning, and Knowledge Discovery and Similarity.

The Industry

The problem-solving nature of CBR grants its conferences the opportunity to encourage interactions between industry practitioners and research scientists. The second day included sec-

Figure 1. ICCBR Attendees in Front of the Stormont, Office of the First Minister since May. Picture by Peter Funk.

tions of the renewed Industry Program, chaired by Thomas Roth-Berghofer (DFKI, Germany), where industry researchers and practitioners revealed how CBR is sought to save exorbitant amounts of money, illustrated by examples in health care, corruption reduction, and aircraft maintenance.

CBR outside ICCBR and ECCBR

This year's program also innovated by inviting speakers to discuss work in CBR published elsewhere. Those presentations, organized by Mirjam Minor (University of Trier, Germany) broadened the informative role of the event and complemented the papers published in the ICCBR 2007 proceedings.

Notes

1. Copies of invited talks and workshop summaries are available from the 2007 conference website (www.iccbr.org/iccbr07).

2. See www.springeronline.com/978-3-540-74138-1.

3. See www.iccbr.org/iccbr07/wksp.pdf.

Rosina Weber is an associate professor and director of undergraduate programs at the Drexel iSchool. Her bachelor's degree is in business (1988) and she has a master's degree in operations research (1993) and a Ph.D. in AI (1998). Before joining Drexel she was a postdoc at the Navy Center for Applied Research in AI at the Naval Research Laboratory. Her work is primarily geared towards applying intelligent techniques to solve real world knowledge management problems. Her email is rosina.weber@drexel.edu.

Michael M. Richter received his doctoral degree in mathematics in 1968 from the University of Freiburg, Germany. He was a professor of mathematics at University of Texas at Austin, the RWTH Aachen from 1975 to 1986 and a professor of computer science at the University of Kaiserslautern from 1986 to 2003. He was president of the German Association for Mathematical Logic from 1981 to 1985 and served as scientific director at the German Research Center for Artificial Intelligence (where he was a cofounder) from 1989 to 1993. He was several times a visiting professor at Unversidade de Santa Catarina, Brazil. Presently he is an adjunct professor at the University of Calgary.