SARA 2009: The Eighth Symposium on Abstraction, Reformulation, and Approximation

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■ *This article reports on the Eighth Symposium on Abstraction, Reformulation, and Approximation. The symposium took place in July 2009 in Lake Arrowhead, California.*

Abstraction, reformulation, and approximation (ARA) techniques are deemed crucial in the ability of humans to reason about complex and uncertain real-life problems. Consequently, ARA techniques have been studied in various subfields in AI and related disciplines and have been used in various settings including automated reasoning, cognitive modeling, constraint programming, design, diagnosis, machine learning, model-based reasoning, planning, reasoning, scheduling, search, theorem proving, and intelligent tutoring.

The considerable interest in ARA techniques and the great diversity of the researchers involved had led to work on ARA being presented at many different venues. Consequently, there was a need to have a single forum where researchers of different backgrounds and disciplines could discuss their work on ARA. As a result, the Symposium on Abstraction, Reformulation, and Approximation (SARA) was established in 1994 after a series of workshops in 1988, 1990, and 1992. The current SARA, held at Lake Arrowhead, California, USA, on July 7–10, 2009, is the eighth in this series, following symposia in 1994, 1995, 1998, 2000, 2002, 2005, and 2007.

Following a SARA tradition, this symposium brought together researchers with different backgrounds and facilitated lively discussions during and after the talks. There were 30 researchers from North and South America, Europe, and Australia. Additionally, SARA attendees were able to mingle and have fruitful discussions with members of the collocated Symposium on Combinatorial Search (SoCS). The collocation of SoCS was particularly useful in that many modern techniques in combinatorial search frequently utilize ARA methods. Finally, in addition to the regular and poster talks, there were three invited talks delivered by Jeff Orkin (Massachusetts Institute of Technology), Michael Genesereth (Stanford University), and Robert Holte (University of Alberta).

Lake Arrowhead, California.

The social program included a presymposium dinner, catered meals, and a wine-and-cheese reception. Additionally, also following a SARA tradition, the participants made their own badges, applying ARA techniques to graphic art. A panel of judges selected the best ARA-spirited badge and awarded an ARA-style prize to the winner (Andrea Rendl of the University of Saint Andrews). After the symposium, many SARA and SoCS attendees went on to the International Joint Conference on Artificial Intelligence (IJCAI) in nearby Pasadena, California.

Overall, 37 papers were submitted to the symposium. After a full peer-review process, 23 full papers and 3 short papers appear in the proceedings. As in previous SARA symposia, the range of subject areas of the papers is substantial, covering areas such as search, constraint satisfaction, planning, databases, diagnosis, satisfiability, and biological networks. The proceedings are available from AAAI Press electronically or in print (200 pages).

Additional information, papers, and photographs can be found at the symposium website, designed and hosted by the symposium publicity chair, Nathan Sturtevant at the University of Alberta (Canada) (webdocs.cs.ualberta.ca/~nathanst /sara).

Vadim Bulitko received his Ph.D. in computer science from the University of Illinois at Urbana-Champaign in 1999 and is currently an associate professor at the department of Computing Science at the University of Alberta. His interests are in strong AI, creativity, and cognition. Bulitko's primary contributions are in the area of real-time heuristic search. He has also worked in emotion and culture modeling in virtual trainers, player modeling for adaptive storytelling in role-playing video games, enemy prediction in tactical first-person shooters, hiding and seeking spatial patterns in human behavior, and other areas. In doing so, Bulitko has collaborated with Bioware Corporation, Reykjavik University, Queensland University of Technology, Canadian Forestry Service, and Syncrude Research, among others. He cochaired an IJCAI'05 workshop on decision making in uncertain environments, was a workshop and tutorial chair for ICML'06, and is a cochair of the SARA'09 international symposium. In his free time, Bulitko enjoys photography, painting and sketching, hiking, martial arts, jogging, writing poetry, reading philosophy, and playing video games.

J. Christopher Beck received his Ph.D. in computer science at the University of Toronto in 1999. Subsequently, he spent three years at ILOG in Paris, France, working on its constraint-based scheduling product before joining academe for two years as staff scientist at the Cork Constraint Computation Centre, Cork, Ireland. In 2004, Beck returned to the University of Toronto, this time in the Department of Mechanical and Industrial Engineering, where he is currently an associate professor. Beck's research interests include AI, operations research, search, optimization, constraint programming, reasoning under uncertainty, and problem reformulation. He was the cochair of SARA'09 and the program cochair of the Eighteenth International Conference on Automated Planning and Scheduling (ICAPS'08) and the Third International Conference on Integration of AI and OR Techniques in Constraint Programming (CPAIOR'06). Beck is the letters editor for *Constraints* and serves in editorial functions for the *Journal of Scheduling, Constraint Programming Letters,* the *Knowledge Engineering Review,* and the *Mathematical Programming Glossary.*