Diagrammatic Representation and Inference

Second International Conference, Diagrams 2002 Callaway Gardens, GA, USA, April 18-20, 2002 Proceedings

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Preface

Beginning with prehistoric cave drawings, diagrams have been a common means of representing and communicating information throughout history. Humans are skilled at creating, understanding, and making inferences from diagrams. In recent years, with advances in graphic technologies, innovations such as animations and interactive visualizations have made diagrammatic representations even more important in scientific and technical discourse and in everyday life. There is increased interest in fields such as artificial intelligence, computer vision, and visual programming languages to endow computers with human-like diagrammatic reasoning capacities. These developments have triggered a new surge of interest in the study of diagrammatic notations, which is driven by several different scientific disciplines concerned with cognition, computation, and communication.

"Diagrams" is an international and interdisciplinary conference series on the theory and application of diagrams in all scientific fields of inquiry. It grew out of a series of workshops during the 1990s: Thinking with Diagrams (TWD), Theory of Visual Languages (TVL), and Reasoning with Diagrammatic Representations (DR). The conference series was successfully launched in Edinburgh in September 2000. It attracts researchers from a variety of academic disciplines who are studying the nature of diagrammatic representations, their use in human communication, and cognitive or computational mechanisms for processing diagrams. Thus, it reflects the realization that the study of diagrammatic representation and communication must be pursued as an interdisciplinary endeavor. "Diagrams 2002" was the second event in this series. It took place at Callaway Gardens, Georgia, USA, April 18-20, 2002.

The call for contributions to Diagrams 2002 attracted 77 submissions from disciplines such as architecture, artificial intelligence, cognitive science, computer science, education, human-computer interaction, logic, philosophy, and psychology. The conference program was determined by a distinguished Program Committee that brought both interdisciplinary expertise and international flavor to the endeavor. Each submission was thoroughly peer-reviewed by three members of the Program Committee or additional referees they nominated. This labor-intensive process was intended to equitably identify the highest quality scientific and technical contributions, effectively communicated, that provided the balanced multidisciplinary intellectual record of research appearing in these proceedings. The acceptance rate was about 30% with 21 full papers accepted for presentation at the conference. In addition, 19 submissions were accepted as posters.

Besides paper and poster presentations, Diagrams 2002 included two invited talks. One was by B. Chandrasekaran, a respected researcher in artificial intelligence who played a key role in the very first meeting on this topic (1992 AAAI Spring Symposium on Reasoning with Diagrammatic Representations) and the

subsequent development of this field. The second invited talk was presented by James A. Landay, an emerging researcher in human-computer interaction, who has studied how designers use sketches in the early stages of user interface design for the web and has leveraged his findings to build novel computational tools that support design by sketching.

We gratefully acknowledge financial support from the Office of Naval Research, the American Association for Artificial Intelligence, and the Cognitive Science Society. Their support enabled us to provide scholarships to all student first authors of papers and posters presented at the conference, and present a best paper award which was announced at the conference. The generosity of our sponsors is very much appreciated. In addition, the conference was held in cooperation with the Japanese Cognitive Science Society and the Japanese Society for Artificial Intelligence. We thank Hiroshi Motoda, Atsushi Shimojima, and Masaki Suwa for their efforts in securing this cooperation.

We thank members of the program and organizing committees for making the meeting and this volume a success. We are grateful for the continued support of Springer-Verlag. The staff of Callaway Gardens provided a pleasant setting for our intellectual exchanges. Finally, the core of any such enterprise is the participants and contributors. Their effort and enthusiasm made this a worthwhile endeavor.

March 2002   Mary Hegarty
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