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Conceptual Structures: Logical, Linguistic, and Computational Issues

8th International Conference
on Conceptual Structures, ICCS 2000
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Preface

Computer scientists create models of a perceived reality. Through AI techniques, these models aim at providing the basic support for emulating cognitive behavior such as reasoning and learning, which is one of the main goals of the AI research effort. Such computer models are formed through the interaction of various acquisition and inference mechanisms: perception, concept learning, conceptual clustering, hypothesis testing, probabilistic inference, etc., and are represented using different paradigms tightly linked to the processes that use them. Among these paradigms let us cite: biological models (neural nets, genetic programming), logic-based models (first-order logic, modal logic, rule-based systems), virtual reality models (object systems, agent systems), probabilistic models (Bayesian nets, fuzzy logic), linguistic models (conceptual dependency graphs, language-based representations), etc.

One of the strengths of the Conceptual Graph (CG) theory is its versatility in terms of the representation paradigms under which it falls. It can be viewed and therefore used, under different representation paradigms, which makes it a popular choice for a wealth of applications. Its full coupling with different cognitive processes lead to the opening of the field toward related research communities such as the Description Logic, Formal Concept Analysis, and Computational Linguistic communities. We now see more and more research results from one community enrich the other, laying the foundations of common philosophical grounds from which a successful synergy can emerge.

ICCS 2000 embodies this spirit of research collaboration. It presents a set of papers that we believe, by their exposure, will benefit the whole community. For instance, the technical program proposes tracks on Conceptual Ontologies, Language, Formal Concept Analysis, Computational Aspects of Conceptual Structures, and Formal Semantics, with some papers on pragmatism and human related aspects of computing. Never before was the program of ICCS formed by so heterogeneously rooted theories of knowledge representation and use. We hope that this swirl of ideas will benefit you as much as it already has benefited us while putting together this program.

June 2000

Guy W. Mineau
Bernhard Ganter
Program Chairs, ICCS 2000

Organization

The International Conference on Conceptual Structures (ICCS) is the annual conference and principal research forum in the theory and practice of conceptual structures. Previous ICCS conferences have been held at the Université Laval (Quebec City, 1993), the University of Maryland (1994), the University of California (Santa Cruz, 1995), Sydney (1996), the University of Washington (Seattle, 1997), Montpellier (1998), and at Virginia Tech (Blacksburg, 1999).

ICCS 2000, the 8th International Conference on Conceptual Structures, was organized by the Department of Mathematics, University of Technology, Darmstadt, Germany.

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