Implementation and Application of Automata

7th International Conference, CIAA 2002
Tours, France, July 3-5, 2002
Revised Papers
The 7th International Conference on Implementation and Application of Automata (CIAA 2002) was held at the Université François Rabelais of Tours, in Tours, France, on July 3–5, 2002.

This volume of Lecture Notes in Computer Science contains all the papers that were presented at CIAA 2002, as well as the abstracts of the poster papers that were displayed during the conference.

The conference addressed issues in automata application and implementation. The topics of the papers presented in this conference ranged from automata applications in software engineering, natural language and speech recognition, and image processing, to new representations and algorithms for efficient implementation of automata and related structures.

Automata theory is one of the oldest areas in computer science. Research in automata theory has always been motivated by its applications since its early stage of development. In the 1960s and 1970s, automata research was motivated heavily by problems arising from compiler construction, circuit design, string matching, etc. In recent years, many new applications of automata have been found in various areas of computer science as well as in other disciplines. Examples of the new applications include statecharts in object-oriented modeling, finite transducers in natural language processing, and nondeterministic finite-state models in communication protocols. Many of the new applications cannot simply utilize the existing models and algorithms in automata theory in the solution to their problems. New models, or modifications of the existing models, are needed to satisfy their requirements. Also, the sizes of the typical problems in many of the new applications are astronomically larger than those used in the traditional applications. New algorithms and new representations of automata are in demand to reduce the time and space requirements of the computation.

The CIAA conference series provided a forum for these new problems and new challenges. In these conferences, both theoretical and practical results related to the application and implementation of automata were presented and discussed, and software packages and toolkits were demonstrated. The participants of the conference series were from both research institutions and industry.

We wish to thank all the program committee members and referees for their efforts in refereeing and selecting papers.

We wish to thank EATCS and ACM SIGACT for their sponsorship, and the following institutions for their donations to the conference:

– CNRS,
– the Scientific Council of the University of Tours,
– the UFR de Sciences et Techniques of the University of Rouen,
– the Administrative Council Région Centre,
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Preface

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April 2003

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