Contents

Coı	ntents of Volume 1: Algebraic Techniques	VII
Coı	ntributors	ix
For	Foreword	
A Preview of Volume 2: Rewriting Techniques		xv
1	Completion Without Failure Leo Bachmair, Nachum Dershowitz, and David A. Plaisted	1
2	Completion and Its Applications Nachum Dershowitz	31
3	Extending Equation Solving and Constraint Handling in Logic Programming M. Dincbas, H. Simonis, and P. Van Hentenryck	87
4	Proofs by Combinatory Induction on Recursively Reducible Expressions Laurent Fribourg	117
5	Completion Algorithms for Conditional Rewriting Systems Stephane Kaplan and Jean-Luc Rémy	141
6	From Unification in Combination of Equational Theories to a New AC-Unification Algorithm Claude Kirchner	171
7	Inductive Completion by Ground Proof Transformation Wolfgang Küchlin	211
8	Lazy Unification Algorithms for Canonical Rewrite Systems A. Martelli, G. F. Rossi, and C. Moiso	245

Vì		Contents
9	Equations in Words	275
	Dominique Perrin	
10	Order-Sorted Equational Computation	297
	Gert Smolka, Werner Nutt, Joseph A. Goguen,	
	and José Meseguer	
Index		369

Contents of Volume 1: Algebraic Techniques

1	Bisimulation in Algebraic Specifications Egidio Astesiano and Martin Wirsing	1
2	Characteristic Sets and Gröbner Bases in Geometry Theorem Proving Shang-Ching Chou, William F. Schelter, and Jin-Gen Yang	33
3	On Recognizable Sets and Tree Automata Bruno Courcelle	93
4	The Idea of a Diagram Desmond Fearnley-Sander	127
5	Rigid E -Unification and Its Applications to Equational Matings Jean Gallier, Wayne Snyder, and Stan Raatz	151
6	What Is Unification? Joseph Goguen	217
7	Some Fixpoint Techniques in Algebraic Structures and Applications to Computer Science Irène Guessarian	263
8	Canonical Representatives for Observational Equivalence Classes Ugo Monatanari and Marcello Sgamma	293
9	Minimizing Expansion of Recursions Jeffrey F. Naughton and Yehoshua Sagiv	321
	John J. T. Maghion and Tonobha 2-0-	vii

viii	Cor	itents
10	Tree Monoids and Recognizability of Sets of Finite Trees Maurice Nivat and Andreas Podelski	351
11	Recursively Defined Types in Constructive Type Theory Prakash Panangaden, Paul Mendler, and Michael I. Schwartzbach	369
12	Rule Transfomation Methods in the Implementation of Logic-Based Languages	411

Domenico Sacca and Carlo Zaniolo