Cousot

Verification, Model Checking, and Abstract Interpretation

6th International Conference, VMCAI 2005, Paris, France, January 17-19, 2005, Proceedings

This volume contains the papers accepted for presentation at the 6th Inter- tional Conference on Veri?cation, Model Checking and Abstract Interpretation (VMCAI 2005), which was held January 17–19, 2005 in Paris, France. VMCAI provides a forum for researchers from the communities of veri?- tion, model checking, and abstract interpretation, facilitating interaction, cro- fertilization, and advancement of hybrid methods that combine the three areas. With the growing need for formal methods to reason about complex, in?ni- state, and embedded systems, such hybrid methods are bound to be of great importance. VMCAI 2005 received 92 submissions. Each paper was carefully reviewed, being judged according to scienti?c quality, originality, and relevance to the symposium topics. Following online discussions, the program committee met in ´ Paris,France,attheEcoleNormaleSup´ erieureonOctober30,2004,andselected 27 papers. In addition to the contributed papers, this volume includes contributions by outstanding invited speakers: ´ – Patrick Cousot (Ecole Normale Sup´ erieure, Paris), Proving Program Inva- ance and Termination by Parametric Abstraction, Lagrangian Relaxation and Semide?nite Programming; – C.A.R. Hoare (Microsoft Research, Cambridge), The Verifying Compiler, a Grand Challenge for Computing Research; – Amir Pnueli (New York University and Weizmann Institute of Science), - straction for Liveness. The VMCAI 2005 program included an invited tutorial by Sriram K. Ra- mani (Microsoft Research,Redmond) on Model Checking, Abstraction and S- bolic Execution for Software. VMCAI 2005 was followed by workshops on Automatic Tools for Veri?- tion, Abstract Interpretation of Object-Oriented Languages, and Numerical & Symbolic Abstract Domains.

Invited Paper.- Proving Program Invariance and Termination by Parametric Abstraction, Lagrangian Relaxation and Semidefinite Programming.- Numerical Abstraction.- Scalable Analysis of Linear Systems Using Mathematical Programming.- The Arithmetic-Geometric Progression Abstract Domain.- An Overview of Semantics for the Validation of Numerical Programs.- Invited Talk.- The Verifying Compiler, a Grand Challenge for Computing Research.- Verification I.- Checking Herbrand Equalities and Beyond.- Static Analysis by Abstract Interpretation of the Quasi-synchronous Composition of Synchronous Programs.- Termination of Polynomial Programs.- Verifying Safety of a Token Coherence Implementation by Parametric Compositional Refinement.- Invited Talk.- Abstraction for Liveness.- Heap and Shape Analysis.- Abstract Interpretation with Alien Expressions and Heap Structures.- Shape Analysis by Predicate Abstraction.- Predicate Abstraction and Canonical Abstraction for Singly-Linked Lists.- Purity and Side Effect Analysis for Java Programs.- Abstract Model Checking.- Automata as Abstractions.- Don't Know in the ?-Calculus.- Model Checking of Systems Employing Commutative Functions.- Model Checking.- Weak Automata for the Linear Time ?-Calculus.- Model Checking for Process Rewrite Systems and a Class of Action-Based Regular Properties.- Minimizing Counterexample with Unit Core Extraction and Incremental SAT.- I/O Efficient Directed Model Checking.- Applied Abstract Interpretation.- Verification of an Error Correcting Code by Abstract Interpretation.- Information Flow Analysis for Java Bytecode.- Cryptographic Protocol Analysis on Real C Code.- Bounded Model Checking.- Simple Is Better: Efficient Bounded Model Checking for Past LTL.- Optimizing Bounded Model Checking for Linear HybridSystems.- Verification II.- Efficient Verification of Halting Properties for MPI Programs with Wildcard Receives.- Generalized Typestate Checking for Data Structure Consistency.- On the Complexity of Error Explanation.- Efficiently Verifiable Conditions for Deadlock-Freedom of Large Concurrent Programs.

53,49 €
49,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9783540242970
Medium: Buch
ISBN: 978-3-540-24297-0
Verlag: Springer
Erscheinungstermin: 13.01.2005
Sprache(n): Englisch
Auflage: 1. Auflage 2005
Serie: Theoretical Computer Science and General Issues
Produktform: Kartoniert
Gewicht: 1530 g
Seiten: 483
Format (B x H): 155 x 235 mm