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POWERFUL TOOLS FOR ADVANCED LOGIC AND CIRCUIT DESIGN

Decision Diagram Techniques for Micro-and Nanoelectronic Design

HANDBOOK

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A Systematic Treatment from Classical to State-of-the-Art Techniques

Decision diagram (DD) techniques are very popular in the electronic design automation (EDA) of integrated circuits, and for good reason. They can accurately simulate logic design, can show where to make reductions on complexity, and can be easily modified to model different scenarios.

Presenting DD techniques from an applied perspective, **Decision Diagram Techniques for Micro-and Nanoelectronic Design Handbook** provides a comprehensive, up-to-date collection of DD techniques. Experts with more than forty years of combined experience in both industrial and academic settings demonstrate how to apply the techniques to full advantage with more than 400 examples and illustrations. Beginning with the fundamental theory, data structures, and logic underlying DD techniques, they explore a breadth of topics from arithmetic and word-level representations to spectral techniques and event-driven analysis. The book also includes abundant references to more detailed information and additional applications.

Decision Diagram Techniques for Micro-and Nanoelectronic Design Handbook collects the theory, methods, and practical knowledge necessary to design more advanced circuits and places it at your fingertips in a single, concise reference.

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FEATURES

- Provides a comprehensive collection of classical, state-of-the-art, and prospective data structures in a tutorial manner
- Explains the computational aspects of DD techniques along with new methods of advanced logic design
- Addresses the central role of topological models based on decision trees and diagrams embedded in spatial structures
- Explores the information theoretic approach and stochastic computing for the modeling and simulation of logic circuits
- Includes emerging areas such as three-dimensional techniques for nanodevices and methods for developing new DDs

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