



## Applications of Zero-Suppressed Decision Diagrams

By Tsutomu Sasao, Jon T. Butler

Morgan Claypool Publishers, United States, 2014. Paperback. Book Condition: New. 235 x 190 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*.A zero-suppressed decision diagram (ZDD) is a data structure to represent objects that typically contain many zeros. Applications include combinatorial problems, such as graphs, circuits, faults, and data mining. This book consists of four chapters on the applications of ZDDs. The first chapter by Alan Mishchenko introduces the ZDD. It compares ZDDs to BDDs, showing why a more compact representation is usually achieved in a ZDD. The focus is on sets of subsets and on sum-of-products (SOP) expressions. Methods to generate all the prime implicants (PIs), and to generate irredundant SOPs are shown. A list of papers on the applications of ZDDs is also presented. In the appendix, ZDD procedures in the CUDD package are described. The second chapter by Tsutomu Sasao shows methods to generate PIs and irredundant SOPs using a divide and conquer method. This chapter helps the reader to understand the methods presented in the first chapter. The third chapter by Shin-Ichi Minato introduces the frontier-based method that efficiently enumerates certain subsets of a graph. The final chapter by Shinobu Nagayama shows a...



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