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Titolo	Logic synthesis for genetic diseases : modeling disease behavior using Boolean networks // Pey-Chang Kent Lin, Sunil P. Khatri
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ISBN	1-4614-9429-X
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (xxi, 100 pages) : illustrations (some color)
Collana	Gale eBooks
Disciplina	570285 610.28 616.042011 620
Soggetti	Gene regulatory networks Genetic disorders Medical genetics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction -- Part I Inference of Gene Regulatory Networks -- Predictor Set Inference using SAT -- Determining Gene Function in Boolean Networks using SAT -- Predictor Ranking using Modified Zhegalkin Functions -- Part II Intervention of Gene Regulatory Networks -- ATPG for Cancer Therapy -- Summary and Future Work.
Sommario/riassunto	This book brings to bear a body of logic synthesis techniques, in order to contribute to the analysis and control of Boolean Networks (BN) for modeling genetic diseases such as cancer. The authors provide several VLSI logic techniques to model the genetic disease behavior as a BN, with powerful implicit enumeration techniques. Coverage also includes techniques from VLSI testing to control a faulty BN, transforming its behavior to a healthy BN, potentially aiding in efforts to find the best candidates for treatment of genetic diseases. <ul style="list-style-type: none"> <li>• Discusses a new application for logic synthesis, which enables the use of Boolean Networks to model the behavior of genetic-based diseases;</li> <li>• Demonstrates how techniques such as Boolean Satisfiability (SAT) and Automatic Test Pattern Generation (ATPG) can be applied in the context of genetics;</li> <li>• Provides content that appeals to researchers in genetics</li> </ul>

and logic synthesis and enables readers to make the connection between genetic diseases and logic techniques in a clear, unambiguous manner.

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