

1. Record Nr.	UNINA9910674353203321
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Titolo	Approximate arithmetic circuit architectures for FPGA-based systems / / Salim Ullah and Akash Kumar
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2023] ©2023
ISBN	3-031-21294-0
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (190 pages)
Disciplina	621.395
Soggetti	Field programmable gate arrays Integrated circuits - Design and construction
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction -- Preliminaries -- Accurate Multipliers -- Approximate Multipliers -- Designing Application-specific Approximate Operators -- A Framework for Cross-layer Approximations -- Conclusions.
Sommario/riassunto	This book presents various novel architectures for FPGA-optimized accurate and approximate operators, their detailed accuracy and performance analysis, various techniques to model the behavior of approximate operators, and thorough application-level analysis to evaluate the impact of approximations on the final output quality and performance metrics. As multiplication is one of the most commonly used and computationally expensive operations in various error- resilient applications such as digital signal and image processing and machine learning algorithms, this book particularly focuses on this operation. The book starts by elaborating on the various sources of error resilience and opportunities available for approximations on various layers of the computation stack. It then provides a detailed description of the state-of-the-art approximate computing-related works and highlights their limitations. Provides architectures of approximate arithmetic circuits optimized for FPGA-based systems; Describes a methodology for implementing application-specific approximate circuits; Introduces technique for concurrent utilization of approximation knobs.

