1. Record Nr. UNINA9910993927803321

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Titolo	SOC-Based Solutions in Emerging Application Domains / / by Veena S. Chakravarthi, Shivananda R. Koteshwar
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2025
ISBN	3-031-85044-0
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (XXVI, 185 p. 36 illus., 34 illus. in color.)
Disciplina	621.3815
Soggetti	Electronic circuits Embedded computer systems Electronics Electronic circuit design Electrical engineering Electronic Circuits and Systems Embedded Systems Electronics and Microelectronics, Instrumentation Electronics Design and Verification Electrical and Electronic Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1 Advanced Process Technologies of for designing SOCs -- Chapter 2 Artificial Intelligent SOCs:AI SOCs -- Chapter 3 Software Defined SOCs -- Chapter 4 Designing Three-dimensional SOCs -- Chapter 5 Designing SOCs with enhanced security and ZTS principles -- Chapter 6 Network on Chips -- Chapter 7 Application specific Instruction Set Processors -- Chapter 8 Quantum-System on chips -- Chapter 9 Designing Photonic SOC -- Chapter 10 RISC-V Based Processor System -- Chapter 11 Planning a Successful SOC: Activities beyond actual Design -- Chapter 12 Impact of Adoption of AI in SOC Design flow.
Sommario/riassunto	Working in the ever-evolving field of smart chip design within an AI-powered design environment, the authors of this book draw on their experiences in successfully developing system-on-chip (SoC) solutions,

having grappled with the emerging design environment, innovative tools, domain-specific challenges, and major design decisions for SOC-based solutions. They present the first comprehensive guide to navigating the technical challenges of SOC-based solutions in emerging application domains, covering various design and development methodologies for system-on-chip solutions for emerging target applications. When diligently applied, the strategies and tactics presented can significantly shorten development timelines, help avoid common pitfalls, and improve the odds of success, especially in AI-powered smart EDA environments. The book provides a detailed insight into SoC-based solutions for various applications, including artificial intelligence (AI), post-quantum security feature enhancements, 3D SOCs, quantum SOCs, photonic SOCs, and SOC solutions for IoT, high-performance computing SOCs, and processor-based systems. The coverage includes architecture exploration methods for targeted applications, compute-intensive SoCs, lightweight SoCs for IOT applications, advanced technology node solutions, and solutions including hardware software co-designs and software-defined SoCs. The strategies best applied in these highly advanced technology developments are discussed in a guest chapter by a practicing high technology strategist so innovators, designers, entrepreneurs, product managers, investors, and executives may properly prepare their companies to succeed. Offers a collection of design solutions for emerging applications and EDA environments; <Clearly explains the AI-powered design environment for faster turnaround with domain-specific challenges addressed; Discusses the methodologies used for advanced System-on-Chip (SoC) design for high technology emerging applications.