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Titolo	Smart Sensors and Systems [[electronic resource]] : Innovations for Medical, Environmental, and IoT Applications // edited by Chong-Min Kyung, Hiroto Yasuura, Yongpan Liu, Youn-Long Lin
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Descrizione fisica	1 online resource (VIII, 521 p. 35 illus., 30 illus. in color.)
Disciplina	621.3815
Soggetti	Electronic circuits Electrical engineering Multimedia information systems Computer communication systems Circuits and Systems Communications Engineering, Networks Multimedia Information Systems Computer Communication Networks
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Biomimetic Materials and Structures for Sensor Applications -- A Multi-modal CMOS Sensor Platform towards Personalized DNA Sequencing -- Circuit Design in mm-Scale Sensor Platform for Future IoT Applications -- Smart Sensor Microsystems: Application-Dependent Design & Integration Approaches -- Energy Efficient RRAM Crossbar-based Approximate Computing for Smart Cameras -- NVRAM-Assisted Optimization Techniques for Flash Memory Management in Embedded Sensor Nodes -- Artificially engineered compound eye sensing systems -- Intelligent Vision Processing Technology for Advanced Driver Assistance Systems -- Implantable optical neural interface -- Realtime programmable closed-loop stimulation/recording platforms for deep brain study -- Internet of Medical Things: the Next PC (personal care) Era -- Functional Nanofibers for Flexible Electronics -- Urine Microchip Sensing System -- Building a Practical Global Indoor Positioning System

-- Proximity-based Federation of Smart Objects and their Application Framework -- Edge Computing for Cooperative Real-Time Controls using Geospatial Big Data -- Challenges of Application of ICT in Cattle Management -- Health Sensor Data Analysis for a Hospital and Developing Countries.

Sommario/riassunto

This book describes the technology used for effective sensing of our physical world and intelligent processing techniques for sensed information, which are essential to the success of Internet of Things (IoT). The authors provide a multidisciplinary view of sensor technology from materials, process, circuits, and big data domains and showcase smart sensor systems in real applications including smart home, transportation, medical, environmental, agricultural, etc. Unlike earlier books on sensors, this book provides a “global” view on smart sensors covering abstraction levels from device, circuit, systems, and algorithms. Profiles active research on smart sensors based on CMOS microelectronics; Describes applications of sensors and sensor systems in cyber physical systems, the social information infrastructure in our modern world; Includes coverage of a variety of related information technologies supporting the application of sensors; Discusses the integration of computation, networking, actuation, databases, and various sensors, in order to embed smart sensor systems into actual social systems.
