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Titolo	Fundamentals of sensor network programming : applications and technology // S. Sitharama Iyengar ... [et al.]
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Edizione	[1st edition]
Descrizione fisica	1 online resource (343 p.)
Altri autori (Persone)	IyengarS. S (Sundararaja S.)
Disciplina	681.2
Soggetti	Sensor networks
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Wireless Sensor Networks -- Sensor Technology -- Background. Data Structures for Sensor Computing -- Tiny Operating System (TinyOS) -- Programming in NesC -- Sensor Network Implementation. Sensor Programming -- Algorithms for Wireless Sensor Networks -- Techniques for Protocol Programming -- Real-World Scenarios. Sensor Deployment Abstraction -- Standards for Building Wireless Sensor Network Applications -- INSPIRE: Innovation in Sensor Programming Implementation for Real-Time Environment -- Performance Analysis of Power-Aware Algorithms -- Modeling Sensor Networks Through Design and Simulation -- MATLAB Simulation of Airport Baggage-Handling System -- Security in Sensor Networks -- Closing Comments.
Sommario/riassunto	An introduction to software development in sensor networksSensor processing is central to aerospace and defense, automation, medical imaging, and robotics. Fundamentals of Sensor Network Programming provides the basics needed to develop sensor network software and supplements. It also examines how to develop onboard applications on individual sensors, how to interconnect these sensors, how to form

networks of sensors, and how these networks interact with the physical world. Included is actual code tested in a laboratory environment, as well as structured examples that allow demonstration of material with only a small network of four or more sensor nodes and a laptop. Fundamentals of Sensor Network Programming concentrates on the class of sensors having severely constrained computation, communication, and energy resources. These devices are usually penny- to matchbox-sized and are deployed in an ad-hoc fashion. This book presents techniques for programming so the sensors can work effectively as a group. Although the focus is on programming the individual sensor, the goal is to make the sensor work in a collaborative environment. With principles that may serve as building blocks for developing large-scale, long-lived systems, the book: . Develops programming methodologies unique to sensor networks. Examines how sensors can be interconnected. Shows how networks of sensors are formed. Includes actual code tested in a laboratory environment. Presents case studies covering network applications Providing a balance between theory and applications, this resource will prove beneficial for professionals working in industry, graduate students, computer science professionals, and academic researchers.
