Wireless Sensor Networks: From Theory to Applications

From CRC Press

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Although there are many books available on WSNs, most are low-level, introductory books. The few available for advanced readers fail to convey the breadth of knowledge required for those aiming to develop next-generation solutions for WSNs.

Filling this void, **Wireless Sensor Networks: From Theory to Applications** supplies comprehensive coverage of WSNs. In order to provide the wide-ranging guidance required, the book brings together the contributions of domain experts working in the various subfields of WSNs worldwide.

This edited volume examines recent advances in WSN technologies and considers the theoretical problems in WSN, including issues with monitoring, routing, and power control. It also details methodologies that can provide solutions to these problems. The book's 25 chapters are divided into seven parts:

1. Data Collection
2. Physical Layer and Interfacing
3. Routing and Transport Protocols
4. Energy-Saving Approaches
5. Mobile and Multimedia WSN
6. Data Storage and Monitoring
7. Applications

The book examines applications of WSN across a range of fields, including health, military, transportation, and mining. Addressing the main challenges in applying WSNs across all phases of our life, it explains how WSNs can assist in community development.

Complete with a list of references at the end of each chapter, this book is ideal for senior undergraduate and postgraduate students, researchers, scholars, academics, industrial researchers, and practicing engineers working on WSNs. The text assumes that readers possess a foundation in computer networks, wireless communication, and basic electronics.

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Editorial Review

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About the Editors:

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Dr. S. Ramakrishnan received his bachelor of engineering degree in Electronics and Communication Engineering in 1998 from the Bharathidasan University Trichy, and his mechanical engineering degree in Communication Systems in 2000 from the Madurai Kamaraj University Madurai. He received his Ph.D. degree in Information and Communication Engineering from Anna University Chennai in 2007.

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He has also reviewed three books for McGraw Hill International Edition and two books for ACM Computing Reviews. He is a convenor of the IT board in Anna University of Technology-Coimbatore Board of Studies (BoS). He is guiding 10 PhD research scholars. His biography has been included in Marquis Whos's Who in the World 2011 edition. His areas of research include digital image processing, soft computing, human–computer interaction, wireless sensor networks, and cognitive radio.

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