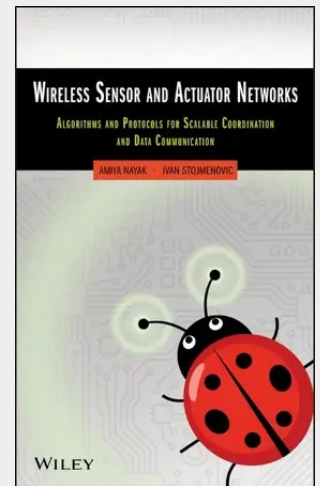


Wireless Sensor and Actuator Networks: Algorithms and Protocols for Scalable Coordination and Data Communication

A mixture of theory, experiments, and simulations that provide qualitative and quantitative insights into the technology. The important new technology of wireless sensor and actuator networks provides radically new communication and networking paradigms with many new applications. *Wireless Sensor and Actuator Networks* is a timely text that presents a fault-tolerant, reliable, low-latency, and energy-aware framework for wireless sensor and actuator networks, enabling readers to fulfill the ultimate goals of the applications--such as protecting critical infrastructures, achieving timely emergency responses, and monitoring the environment. Taking a problem-oriented approach, this resource discusses a wide range of computing and communication problems and solutions that arise in rapidly emerging wireless sensor and actuator networks, striking a balance between theory and practice. * Discusses backbones as subsets of sensors or actuators that suffice for performing basic data communication operations or area sensing coverage * Surveys existing data communication schemes (broadcasting, routing, multicasting, anycasting, geocasting) for sensor-actuator coordination * Reviews the location service techniques * Addresses the problem of energy-efficient data gathering by mobile sinks/actuators * Describes protocols for coordination and topology control in sensor, actuator, and robot networks * Reviews existing solutions to the sensor placement problem in wireless sensor and actuator networks. This book is unique in that it addresses sensor and actuator networking in a comprehensive manner--covering all the aspects and providing up-to-date information--so that industry operators and academics from various areas can learn more about current networking trends, become aware of the possible architectures, and understand the advantages and limits in future commercial, social, and educational applications. *Wireless Sensor and Actuator Networks* is appropriate for graduate students in computer science, electrical engineering, and telecommunications, as well as practitioners working as engineers, programmers, and technologists.

A mixture of theory, experiments, and simulations that provide qualitative and quantitative insights into the technology. The important new technology of wireless sensor and actuator networks provides radically new communication and networking paradigms with many new applications. *Wireless Sensor and Actuator Networks* is a timely text that presents a fault-tolerant, reliable, low-latency, and energy-aware framework for wireless sensor and actuator networks, enabling readers to fulfill the ultimate goals of the applications--such as protecting critical infrastructures, achieving timely emergency responses, and monitoring the environment. Taking a problem-oriented approach, this resource discusses a wide range of computing and communication problems and solutions that arise in rapidly emerging wireless sensor and actuator networks, striking a balance between theory and practice. * Discusses backbones as subsets of sensors or actuators that suffice for performing basic data communication operations or area sensing coverage * Surveys existing data communication schemes (broadcasting, routing, multicasting, anycasting, geocasting) for sensor-actuator coordination * Reviews the location service techniques * Addresses the problem of energy-efficient data gathering by mobile sinks/actuators * Describes protocols for coordination and topology control in sensor, actuator, and robot networks * Reviews existing solutions to the sensor placement problem in wireless sensor and actuator networks. This book is unique in that it addresses sensor and actuator networking in a comprehensive manner--covering all the aspects and providing up-to-date information--so that industry operators and academics from various areas can learn more about current networking trends, become aware of the possible architectures, and understand the advantages and limits in future commercial, social, and educational applications. *Wireless Sensor and Actuator Networks* is appropriate for graduate students in computer science, electrical engineering, and telecommunications, as well as practitioners working as engineers, programmers, and



132,50 €
123,83 € (zzgl. MwSt.)

Nicht mehr lieferbar

Artikelnummer: 9780470170823
Medium: Buch
ISBN: 978-0-470-17082-3
Verlag: WILEY
Erscheinungstermin: 28.02.2010
Sprache(n): Englisch
Auflage: Erscheinungsjahr 2010
Produktform: Gebunden
Gewicht: 576 g
Seiten: 316
Format (B x H): 162 x 243 mm

