

Machine Learning for Environmental Monitoring in Wireless Sensor Networks

Part of the Advances in Computer and Electrical Engineering Book Series

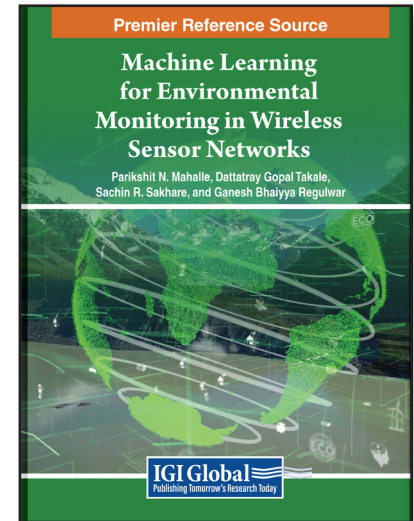
Parikshit N. Mahalle (Professor, India), Dattatray Gopal Takale (Assistant Professor, India), Sachin R. Sakhare (Professor, India) and Ganesh Bhaiyya Regulwar (Professor, India)

Description:

Today, data fuels everything we do in a highly connected world. However, traditional environmental monitoring methods often fail to provide timely and accurate data for effective decision-making in today's rapidly changing ecosystems. The reliance on manual data collection and outdated technologies results in gaps in data coverage, making it challenging to detect and respond to environmental changes in real time. Additionally, integration between monitoring systems and advanced data analysis tools is necessary to derive actionable insights from collected data. As a result, environmental managers and policymakers face significant challenges in effectively monitoring, managing, and conserving natural resources in a rapidly evolving environment.

Machine Learning for Environmental Monitoring in Wireless Sensor Networks offers a comprehensive solution to the limitations of traditional environmental monitoring methods. By harnessing the power of Wireless Sensor Networks (WSNs) and advanced machine learning algorithms, this book presents a novel approach to ecological monitoring that enables real-time, high-resolution data collection and analysis. By integrating WSNs and machine learning, environmental stakeholders can gain deeper insights into complex ecological processes, allowing for more informed decision-making and proactive management of natural resources.

Key features of the book include an in-depth exploration of the principles, methodologies, and applications of WSNs and machine learning in environmental monitoring, real-world case studies and projects illustrating successful implementations, and a discussion on energy-efficient strategies for optimizing the sustainability of WSN deployments. Emphasis is placed on interdisciplinary collaborations among environmental scientists, engineers, data scientists, policymakers, and other stakeholders to foster innovative solutions for sustainable ecological monitoring. This book, tailored for researchers, practitioners, policymakers, and environmental enthusiasts, is an invaluable resource for leveraging cutting-edge technologies to address environmental monitoring and conservation challenges.



ISBN: 9798369339404

Pages: 330

Copyright: 2024

Release Date: June, 2024

Hardcover: \$365.00

E-Book: \$365.00

**Hardcover +
E-Book:** \$440.00

Topics Covered:

- Agriculture
- Air Quality
- Biodiversity
- Climate Change
- Data Collection Methods and Tools
- Energy Efficiency
- Environmental Monitoring
- Machine Learning
- Remote Sensing
- Security
- Sensor Networks
- Sustainability
- Water Resources
- Wildlife Monitoring

Subject: Computer Science & Information Technology

Classification: Edited Reference

Readership Level: Advanced-Academic Level (Research Recommended)

Research Suitable for: Advanced Undergraduate Students; Graduate Students; Researchers; Academicians; Professionals; Practitioners

Order Information

Phone: 717-533-8845 x100

Toll Free: 1-866-342-6657

Fax: 717-533-8661 or 717-533-7115

Online Bookstore: www.igi-global.com

Mailing Address: 701 East Chocolate Avenue, Hershey, PA 17033, USA