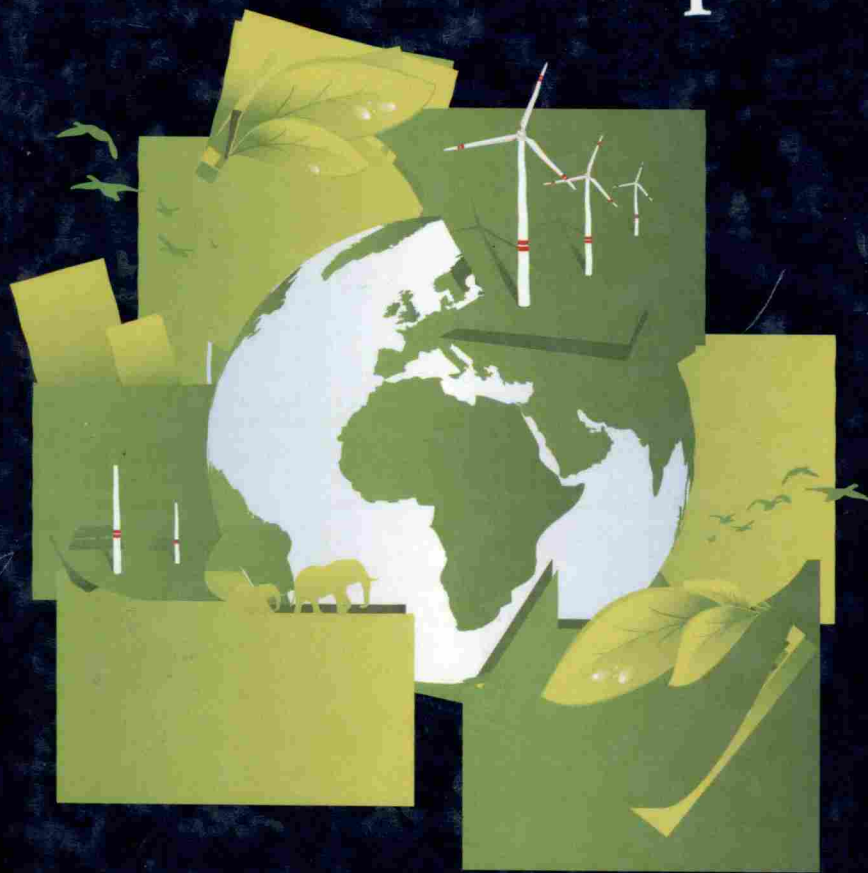


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Computational Intelligent Data Analysis for Sustainable Development



Edited by
Ting Yu, Nitesh V. Chawla, and Simeon Simoff

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Computational Intelligent Data Analysis for Sustainable Development

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Going beyond performing simple analyses, researchers involved in the highly dynamic field of computational intelligent data analysis design algorithms that solve increasingly complex data problems in changing environments, including economic, environmental, and social data. **Computational Intelligent Data Analysis for Sustainable Development** presents novel methodologies for automatically processing these types of data to support rational decision making for sustainable development. Through numerous case studies and applications, it illustrates important data analysis methods, including mathematical optimization, machine learning, signal processing, and temporal and spatial analysis, for quantifying and describing sustainable development problems.

The book shows how modern data analysis can improve the research and practical implementation of sustainable development solutions. It first examines how integrated sustainability analysis uniformly measures and reports environmental impacts such as the carbon footprint of global trade. It then addresses climate change, biodiversity and wildlife conservation, renewable energy and the need for smart grids, and economic and sociopolitical sustainability.

Sustainable development problems, such as global warming, resource shortages, global species loss, and pollution, push researchers to create powerful data analysis approaches that analysts can then use to gain insight into these issues to support rational decision making. This volume shows both the data analysis and sustainable development communities how to use intelligent data analysis tools to address practical problems and encourages researchers to develop better methods.

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