In recent years, remote sensing images have great potential for continuous spatial and temporal monitoring of Earth surface features. High-dimensional hyperspectral (HS) data are highly resourceful compared with multispectral (MS) data but handling such large volume data is a very challenging task, which should be addressed with the use of feature selection or feature extraction-based dimensionality reduction techniques. The major focus of this book is to demonstrate recently proposed computationally efficient approaches based on advanced machine learning and deep learning techniques to achieve better performance for land cover classification, MS to HS data transformation, and chlorophyll content prediction. The research works (i.e. developed techniques and end products), presented in this book, have the potential applications in hydrological modeling, irrigation water management, vegetation condition monitoring, crop yield forecasting, crop insurance planning, etc. In this era, when different space agencies of several countries are planning to launch HS satellite, these research works prove the importance of HS data for numerous applications.

Hyperspectral Remote Sensing

Subir Paul

Nagesh Kumar Dasika

Dr. Subir Paul is working as a Research Associate at the Interdisciplinary Center for Water Research and D. Nagesh Kumar is Professor in the Department of Civil Engineering of Indian Institute of Science, Bengaluru, India. The authors have many research publications.

Hyperspectral Remote Sensing for Land Cover Classification

Hyperspectral Data for Land Cover Classification and Chlorophyll Content Estimation Using Machine Learning Techniques

Paul, Dasika

9 786202 794930