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Nota di contenuto	Chapter 1 Introduction to Super-Resolution for Remotely Sensed Hyperspectral Images -- Chapter 2 Real-World Unsupervised Remote Sensing Image Super-Resolution: Addressing Challenges, Solution and Future Prospects -- Chapter 3 Advancements in Deep Learning-Based Super-Resolution for Remote Sensing: A Comprehensive Review and Future Directions -- Chapter 4 Multi-Image Super-Resolution Using Graph Neural Networks -- Chapter 5 Effectiveness Analysis of Example-Based Machine Learning and Deep Learning Methods for Super-Resolution Hyperspectral Images -- Chapter 6 Synergy of Images: Multi-Image Fusion Empowering Super-Resolution in Remote Sensing -- Chapter 7 Unsupervised Pansharpening using ConvNets -- Chapter 8 A comprehensive overview of satellite image fusion: From classical model-based to cutting-edge deep learning approaches -- Chapter 9 Super-Resolution for Spectral Image.

Sommario/riassunto

This book provides a comprehensive perspective over the landscape of super-resolution techniques developed for and applied to remotely-sensed images. The chapters tackle the most important problems that professionals face when dealing with super-resolution in the context of remote sensing. These are: evaluation procedures to assess the super-resolution quality; benchmark datasets (simulated and real-life); super-resolution for specific data modalities (e.g., panchromatic, multispectral, and hyperspectral images); single-image super-resolution, including generative adversarial networks; multi-image fusion (temporal and/or spectral); real-world super-resolution; and task-driven super-resolution. The book presents the results of several recent surveys on super-resolution specifically for the remote sensing community. Focuses on reconstruction accuracy compared with ground truth rather than on generating a visually-attractive outcome; Explains how to apply super-resolution to a variety of image modalities inherent to remote sensing; Gathers the description of training datasets and benchmarks that are based on remotely-sensed images.