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Titolo	Advances in chromatography 1970 : proceedings of the 6th International Symposium held in Miami Beach, Florida June 2-5, 1970 / editor: A. Zlatkis
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Autore	Gaw Nathan
Titolo	Multimodal and Tensor Data Analytics for Industrial Systems Improvement / / edited by Nathan Gaw, Panos M. Pardalos, Mostafa Reisi Gahrooei
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Nota di contenuto	Chapter 1: Introduction to multimodal and tensor data analytics -- Chapter 2: Functional Methods for Multimodal Data Analysis -- Chapter 3: Advanced Data Analytical Techniques for Profile Monitoring -- Chapter 4: Statistical process monitoring methods based on functional data analysis -- Chapter 5: Tensor and multimodal data analysis -- Chapter 6: Tensor Data Analytics in Advanced Manufacturing Processes -- Chapter 7: Spatiotemporal Data Analysis – A Review of Techniques, Applications, and Emerging Challenges -- Chapter 8: Offshore Wind Energy Prediction Using Machine Learning with Multi-Resolution Inputs -- Chapter 9: Sparse Decomposition Methods for Spatio-temporal Anomaly Detection -- Chapter 10: Multimodal Deep Learning -- Chapter 11: Multimodal Deep Learning for Manufacturing Systems: Recent Progress and Future Trends -- Chapter 12: Synergy of Engineering and Statistics: Multimodal data Fusion for Quality Improvement -- Chapter 13: Manufacturing data fusion: a case study with steel rollingprocesses -- Chapter 14: AI-enhanced Fault Detection using Multi-structured Data in Semiconductor Manufacturing -- Chapter 15: A Survey of Advances in Multimodal Federated Learning with Applications -- Chapter 16: Bayesian Multimodal Data Analytics: An introduction -- Chapter 17: Bayesian approach to multimodal data in human factors engineering -- Chapter 18: Bayesian Multimodal Models for Risk Analyses of Low-Probability High-Consequence Events.
Sommario/riassunto	This volume covers the latest methodologies for using multimodal data fusion and analytics across several applications. The curated content presents recent developments and challenges in multimodal data analytics and shines a light on a pathway toward new research developments. Chapters are composed by eminent researchers and practitioners who present their research results and ideas based on their expertise. As data collection instruments have improved in quality and quantity for many applications, there has been an unprecedented increase in the availability of data from multiple sources, known as modalities. Modalities express a large degree of heterogeneity in their form, scale, resolution, and accuracy. Determining how to optimally combine the data for prediction and characterization is becoming increasingly important. Several research studies have investigated integrating multimodality data and discussed the challenges and limitations of multimodal data fusion. This volume provides a topical overview of various methods in multimodal data fusion for industrial engineering and operations research applications, such as manufacturing and healthcare. Advancements in sensing technologies and the shift toward the Internet of Things (IoT) has transformed and will continue to transform data analytics by producing new requirements and more complex forms of data. The abundance of data creates an unprecedented opportunity to design more efficient systems and make near-optimal operational decisions. On the other hand, the structural complexity and heterogeneity of the generated data pose a significant challenge to extracting useful features and patterns for making use of the data and facilitating decision-making. Therefore, continual research is needed to develop new statistical and analytical methodologies that overcome these data challenges and turn them into opportunities.