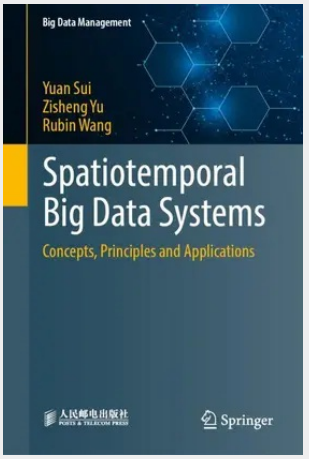
Sui / Yu / Wang

# Spatiotemporal Big Data Systems

Concepts, Principles and Applications




This book demystifies the core principles and architectural design of spatiotemporal big data systems, offering incisive analysis of the unique attributes of spatiotemporal data and its broad applicability in real-world scenarios, aiming to impart a profound understanding of the intrinsic value of spatiotemporal big data and its far-reaching impact across various fields.

In the core technology section, particular emphasis is placed on the pivotal role of GIS (Geographic Information Systems) technology in the processing of spatiotemporal big data, comprehensively covering the entire process from data collection, pre-processing, in-depth analysis to final visualization. Through carefully selected real-world cases and detailed technical explanations, readers will gain proficiency in leveraging GIS technology to uncover the latent value of spatiotemporal big data.

The book also delves into the essential techniques and algorithms required for building efficient spatiotemporal big data systems, such as efficient data storage and management, intelligent data mining and analysis, alongside specific application cases under the smart city framework, including advanced practices in urban planning optimization, traffic management innovation, and environmental monitoring upgrades. Rich in content and blending theoretical depth with practical guidance, it serves as a valuable resource and reference guide for both academic experts and practitioners in the field, as well as a quality read for those intrigued by spatiotemporal big data systems.

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