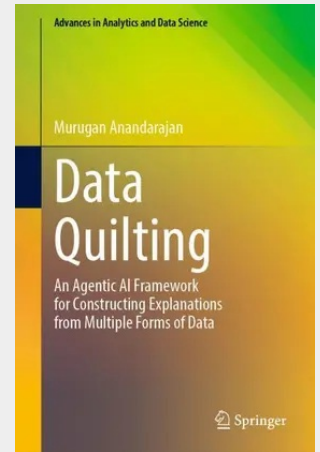


Data Quilting

An Agentic AI Framework for Constructing Explanations from Multiple Forms of Data

This book presents a framework for integrating multiple forms of data to construct meaningful analytical interpretations. Organizations make important decisions by interpreting information from many sources, including numerical data, documents, conversations, images, video, and social networks. Each offers a different perspective, yet bringing these perspectives together into a coherent understanding remains one of the most difficult challenges in analytics. Inspired by quilt making, which combines individual pieces into a unified whole, the framework preserves the contribution of each modality while revealing insights that would be difficult to obtain from any single source. Human judgment remains central throughout the process, supported by specialized AI agents that interpret individual modalities before their findings are brought together. The book introduces the principles of data quilting before describing its agentic architecture and the responsibilities of the individual agents. Chapters examine how numerical, textual, speech, motion, social network, and music data contribute complementary perspectives on the same problem. The final chapters demonstrate how these perspectives are combined through complete worked examples that illustrate the framework in practice. Drawing on ideas from artificial intelligence, analytics, and managerial decision making, Data Quilting provides researchers, graduate students, and analytics professionals with a practical approach for interpreting complex organizational problems through multiple forms of evidence.

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