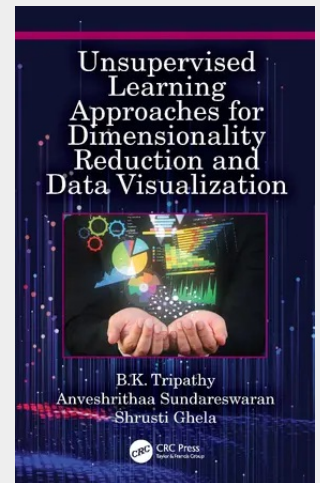


Unsupervised Learning Approaches for Dimensionality Reduction and Data Visualization

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Unsupervised Learning Approaches for Dimensionality Reduction and Data Visualization describes such algorithms as Locally Linear Embedding (LLE), Laplacian Eigenmaps, Isomap, Semidefinite Embedding, and t-SNE to resolve the problem of dimensionality reduction in the case of non-linear relationships within the data. Underlying mathematical concepts, derivations, and proofs with logical explanations for these algorithms are discussed, including strengths and limitations. The book highlights important use cases of these algorithms and provides examples along with visualizations. Comparative study of the algorithms is presented to give a clear idea on selecting the best suitable algorithm for a given dataset for efficient dimensionality reduction and data visualization.

FEATURES - Demonstrates how unsupervised learning approaches can be used for dimensionality reduction - Neatly explains algorithms with a focus on the fundamentals and underlying mathematical concepts - Describes the comparative study of the algorithms and discusses when and where each algorithm is best suitable for use - Provides use cases, illustrative examples, and visualizations of each algorithm - Helps visualize and create compact representations of high dimensional and intricate data for various real-world applications and data analysis This book is aimed at professionals, graduate students, and researchers in Computer Science and Engineering, Data Science, Machine Learning, Computer Vision, Data Mining, Deep Learning, Sensor Data Filtering, Feature Extraction for Control Systems, and Medical Instruments Input Extraction.



Auf Anfrage

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