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Autore	Bandyopadhyay Sanghamitra
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Sommario/riassunto	Clustering is an important unsupervised classification technique where data points are grouped such that points that are similar in some sense belong to the same cluster. Cluster analysis is a complex problem as a variety of similarity and dissimilarity measures exist in the literature. This is the first book focused on clustering with a particular emphasis on symmetry-based measures of similarity and metaheuristic approaches. The aim is to find a suitable grouping of the input data set so that some criteria are optimized, and using this the authors frame

the clustering problem as an optimization one where the objectives to be optimized may represent different characteristics such as compactness, symmetrical compactness, separation between clusters, or connectivity within a cluster. They explain the techniques in detail and outline many detailed applications in data mining, remote sensing and brain imaging, gene expression data analysis, and face detection. The book will be useful to graduate students and researchers in computer science, electrical engineering, system science, and information technology, both as a text and as a reference book. It will also be useful to researchers and practitioners in industry working on pattern recognition, data mining, soft computing, metaheuristics, bioinformatics, remote sensing, and brain imaging.