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Nota di contenuto	Introduction -- The State-of-the-art of Heterogeneous Graph Representation -- Part One: Techniques -- Structure-preserved Heterogeneous Graph Representation -- Attribute-assisted Heterogeneous Graph Representation -- Dynamic Heterogeneous Graph Representation -- Supplementary of Heterogeneous Graph Representation -- Part Two: Applications -- Heterogeneous Graph Representation for Recommendation -- Heterogeneous Graph Representation for Text Mining -- Heterogeneous Graph Representation for Industry Application -- Future Research Directions -- Conclusion. .
Sommario/riassunto	Representation learning in heterogeneous graphs (HG) is intended to provide a meaningful vector representation for each node so as to facilitate downstream applications such as link prediction, personalized recommendation, node classification, etc. This task, however, is challenging not only because of the need to incorporate heterogeneous structural (graph) information consisting of multiple types of node and

edge, but also the need to consider heterogeneous attributes or types of content (e.g. text or image) associated with each node. Although considerable advances have been made in homogeneous (and heterogeneous) graph embedding, attributed graph embedding and graph neural networks, few are capable of simultaneously and effectively taking into account heterogeneous structural (graph) information as well as the heterogeneous content information of each node. In this book, we provide a comprehensive survey of current developments in HG representation learning. Moreimportantly, we present the state-of-the-art in this field, including theoretical models and real applications that have been showcased at the top conferences and journals, such as TKDE, KDD, WWW, IJCAI and AAAI. The book has two major objectives: (1) to provide researchers with an understanding of the fundamental issues and a good point of departure for working in this rapidly expanding field, and (2) to present the latest research on applying heterogeneous graphs to model real systems and learning structural features of interaction systems. To the best of our knowledge, it is the first book to summarize the latest developments and present cutting-edge research on heterogeneous graph representation learning. To gain the most from it, readers should have a basic grasp of computer science, data mining and machine learning.