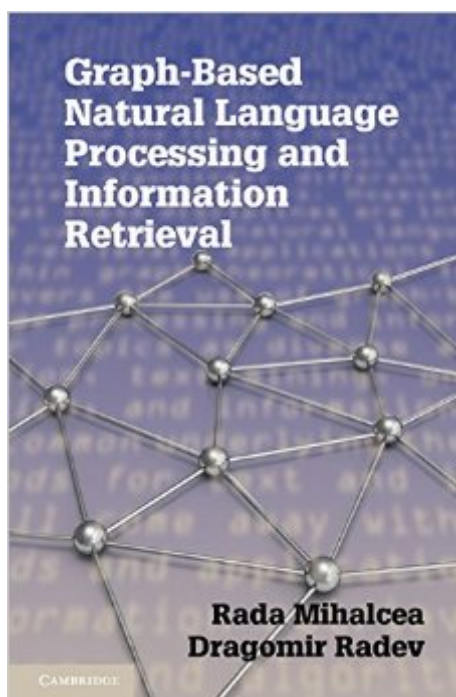


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# Graph-based Natural Language Processing And Information Retrieval



## Synopsis

Graph theory and the fields of natural language processing and information retrieval are well-studied disciplines. Traditionally, these areas have been perceived as distinct, with different algorithms, different applications, and different potential end-users. However, recent research has shown that these disciplines are intimately connected, with a large variety of natural language processing and information retrieval applications finding efficient solutions within graph-theoretical frameworks. This book extensively covers the use of graph-based algorithms for natural language processing and information retrieval. It brings together topics as diverse as lexical semantics, text summarization, text mining, ontology construction, text classification, and information retrieval, which are connected by the common underlying theme of the use of graph-theoretical methods for text and information processing tasks. Readers will come away with a firm understanding of the major methods and applications in natural language processing and information retrieval that rely on graph-based representations and algorithms.

## Book Information

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## Customer Reviews

I have bought this book right when I stepped into Text mining (NLP) area for my current job as Data Scientist. For many months the book accrued dust on my shelf, it was until recently that I read almost half of the book in two sittings. Here is why I suddenly found this book very useful: I was cooking up some ideas on using a graph based approach to model the problem. I spent many hours in thinking on this problem. Eventually I realized, I need a well articulated body of knowledge to

refine my thinking, give words to ideas, reference other people's similar work, and avoid reinventing the wheel. This book did all of the above, and more that I am omitting because of space, and that not yet realized. There is a subtle point here, I will spell out for your convenience, this is for you if you are ready. In addition, it does not go in excess detail that you lose track of your thinking, at the same time it refers enough examples from literature on every topic that you can pursue further to find more details; therefore it's a strong reference book and may not be a textbook. My rating is 4 out of 5: 1) I do not see this as a textbook. 2) The scope is very specialized. 3) You have to have a minimum level of exposure to graph algorithms, linear algebra, and probability to really benefit from the book. 4) A self-contained appendix to refresh above mentioned topics may improve acceptance of this book, and hence the rating. I hope this helps the future reader.

This book covers lots of topics (as you see can from its TOC) but does not provide sound explanation, intuition, or theory. I would have given a one star rating but my two star rating reflects the fact that you get a list of topics at one place that you can use to further explore.

While this book provides a good background on NLP processing wherein the linguistic entities are individually represented by nodes (and/or edges) in a graph, the title misled me a bit since there is no discussion of theoretical approaches where each linguistic entity is represented by a directed graph (i.e. typed feature structures, Carpenter 1992, etc.) and the operations (i.e. graph unification) are defined over these complex structures. This being my area of interest--and what I was looking for when purchasing the book--I thought I'd mention that this book does not cover the topic.

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