Semantics in Adaptive and Personalised Systems

Methods, Tools and Applications

- Broadens your understanding of semantics-aware content representation techniques and reviews exhaustively the key recent research in the area
- Explains how to effectively exploit techniques for semantics-aware content representation to improve the effectiveness of adaptive and personalized systems
- Contains supplementary material on the available tools and APIs to develop your own semantics-aware adaptive and personalized system
- Discusses new trends and challenges including Serendipitous Recommendations, Conversational Recommender Systems, and Explanation Algorithms

This monograph gives a complete overview of the techniques and the methods for semantics-aware content representation and shows how to apply such techniques in various use cases, such as recommender systems, user profiling and social media analysis. Throughout the book, the authors provide an extensive analysis of the techniques currently proposed in the literature and cover all the available tools and libraries to implement and exploit such methodologies in real-world scenarios. The book first introduces the problem of information overload and the reasons why content-based information needs to be taken into account. Next, the basics of Natural Language Processing are provided, by describing operations such as tokenization, stopword removal, lemmatization, stemming, part-of-speech tagging, along with the main problems and issues. Finally, the book describes the different approaches for semantics-aware content representation: such approaches are split into 'exogenous' and 'endogenous' ones, depending on whether external knowledge sources as DBpedia or geometrical models and distributional semantics are used, respectively.

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