<<情境中的模糊计算本体>>

图书基本信息

书名：<<情境中的模糊计算本体>>

13位ISBN编号：9787040338898

10位ISBN编号：7040338890

出版时间：2012-1

出版时间：高等教育出版社

作者：蔡毅，欧阳靖民，梁浩锋　著

页数：202

<<情境中的模糊计算本体>>

内容概要

计算本体(computational ontology)是对概念以及概念间的各种关系的一种形式化表述，是知识表示、语义网、智能主体等人工智能主要研究领域中的重要研究对象。
本书提出了一个基于模糊集的、可表达对象对于概念的归属程度(object membership)和对象在概念中的典型程度(object typicality)的形式化计算本体模型，以具体例子论证了此形式化模型的必要性和重要性；指出了情境(context)对物体归属程度和典型程度的影响，并对此加以形式化；最后讨论了此形式化模型在推荐系统中的应用，用实验证明利用对象典型程度，或把对象典型程度加到协同过滤法后，能进一步提高模型的准确性。

<<情境中的模糊计算本体>>

书籍目录

Chapter 1 Introduction
Chapter 2 Knowledge Representation on the Web
Chapter 3 Concepts and Categorization from a Psychological Perspective
Chapter 4 Modeling Uncertainty in Knowledge Representation
Chapter 5 Fuzzy Ontology: A First Formal Model
Chapter 6 A More General Ontology Model with Object Membership and Typicality
Chapter 7 Context-aware Object Typicality Measurement in Fuzzy Ontology
Chapter 8 Object Membership with Property Importance and Property Priority
Chapter 9 Applications
Chapter 10 Conclusions and Future Work.
Index

章节摘录

From this description， we notice that besides what we call vagueness in con-cepts， we also have another issue of whether an individual object iS typicalor not.For example， when we refer to concept ‘ bird ’， we may reminder spar.rows and eagles， which are typical instances of the concept ‘ bird ’.and rarelyreminder penguins and ostrich， which are not typical instances of ‘ bird ’.Atfirst glance.such ‘ typicality ’of individual objects in concepts can be treatedin the same way as in the case of vagueness.and in fact they can be bothmodeled by fuzzy set theory or probabilistic theory in some previous works（e.g.， [24， 25]）.Most of the existing approaches only focus on the fuzzinessor vagueness of concepts but not on this typicality effect of categorizations.In fact.fuzziness and typicality are actually intrinsically different aspects ofconcepts.As mentioned in Ref.『26l， we can identify two types of measuresof an individual object ’S membership in a concept.referring to fuzziness andtypicality.That different individual objects have different degrees of typical-ity（or prototypicality ）in a Certain concept iS actually first studied in thefield of cognitive psychology[27-29].As works in cognitive psychology sug-gest， typicality iS more a psychological effect than an objective decision of anindividual ’S membership grade in a concept.It iS found out that typicality ofobjects depends on the match of necessary properties as well as non.necessaryproperties28.For example， robins are generally considered as more typicalbirds than penguins I 28 I.This iS probably due to the fact that birds are gen-erally considered to be able to fly,but penguins do not.Hence， we can seethat this iS very different from， say， how we.judge a certain temperature as ‘ high ’ or not.Thus， typicality should be determined by a different mechanismfrom the one used to determine the fuzzy membership grade of an individualobject.While it iS desirable to model fuzziness of concepts in ontologies.theeffect of typicality should not be overlooked.We believe that it is necessaryto identify the differences between the two measures， SO that we are able tocome up with formal methods to model these two measures in ontologies.

编辑推荐

《情境中的模糊计算本体(英文版)》是国家科学技术学术著作出版基金资助的新一代信息科学与技术。

版权说明