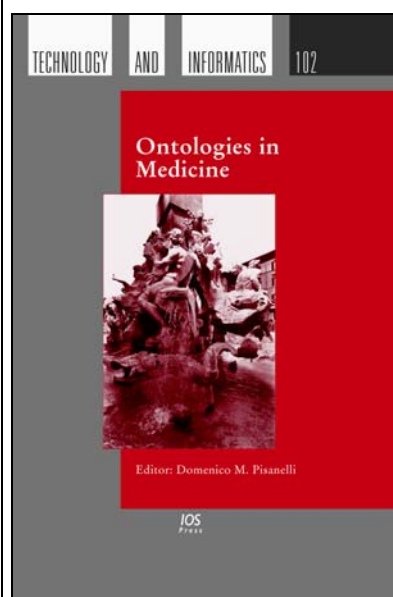


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Ontologies in Medicine

Volume 102 Studies In Health Technology and Informatics

Edited by: D.M. Pisanelli

May 2004, 176 pp., hardcover

ISBN: 1-58603-418-9

Price: US\$ 114 / € 90 / £60

It is now widely acknowledged that ontologies can make a significant contribution to the design and implementation of information systems in the medical field. The aim of this book is both to review fundamental theoretical issues in ontology and to demonstrate the practical effectiveness of the ontological approach by means of a series of case studies in specific problem areas. It begins with a discussion of the usefulness of ontology in solving problems in the field of medical terminology, including disambiguation of polysemous terms and organization of very large corpora. It goes on to consider the role played by ontologies in the integration and alignment of heterogeneous knowledge sources, in particular in the field of clinical guidelines and evidence-based medicine.

Also included are discussions of basic issues of formal ontology, such as how to represent space, time and granularity in biomedical information systems, and discussions of specific high-level medical categories, such as organ systems and their functions. Other papers describe applications of ontology in the field of genomics and in the domain of organ transplantation, and also methods by which mistakes, cycles and inconsistencies in medical ontologies can be detected. The whole presents a unique survey of the most important contributions to the topic of formal ontology in medicine.

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