

## Creating New Medical Ontologies For Image Annotation A Case Study Springerbriefs In Electrical And Computer Engineering

"This reference set provides a complete understanding of the development of applications and concepts in clinical, patient, and hospital information systems"--Provided by publisher.

For many people in both developing and developed countries universal healthcare is still not the norm. Socio-economic status and geographical restrictions have proved to be major barriers to accessible care. The use of information and communication technologies ICT is growing rapidly internationally as the need to provide more efficient and cost-effective care becomes increasingly urgent. Improving the health of a nation begins with the individual and recent developments in genomics and mobile networked information technologies have regenerated interest in individualizing healthcare. Harnessing the diversity and ubiquity of

Encyclopedia of Bioinformatics and Computational Biology: ABC of Bioinformatics combines elements of computer science, information technology, mathematics, statistics and biotechnology, providing the methodology and in silico solutions to mine biological data and processes. The book covers Theory, Topics and Applications, with a special focus on Integrative -omics and Systems Biology. The theoretical, methodological underpinnings of BCB, including phylogeny are covered, as are more current areas of focus, such as translational bioinformatics, cheminformatics, and environmental informatics. Finally, Applications provide guidance for commonly asked questions. This major reference work spans basic and cutting-edge methodologies authored by leaders in the field, providing an invaluable resource for students, scientists, professionals in research institutes, and a broad swath of researchers in biotechnology and the biomedical and pharmaceutical industries. Brings together information from computer science, information technology, mathematics, statistics and biotechnology Written and reviewed by leading experts in the field, providing a unique and authoritative resource Focuses on the main theoretical and methodological concepts before expanding on specific topics and applications Includes interactive images, multimedia tools and crosslinking to further resources and databases

This open access book constitutes the refereed proceedings of the 18th International Conference on String Processing and Information Retrieval, ICOST 2020, held in Hammamet, Tunisia, in June 2020.\* The 17 full papers and 23 short papers presented in this volume were carefully reviewed and selected from 49 submissions. They cover topics such as: IoT and AI solutions for e-health; biomedical and health informatics; behavior and activity monitoring; and wellbeing technology. \*This conference was held virtually due to the COVID-19 pandemic.

Medical Informatics

Database Technology for Life Sciences and Medicine

An Ontology-Based Framework

Integrative, Qualitative and Computational Approaches

First IFIP WG 12.6 International Workshop, AI4KM 2012, Montpellier, France, August 28, 2012, Revised Selected Papers

ABC of Bioinformatics

***In low-resource settings, the prioritization of clinical care funding is often determined by immediate health priorities. As a result, investment directed towards the development of standards for clinical data representation and exchange are rare and accordingly, data management systems are often redundant. Open-source systems such as OpenMRS and OpenClinica provide an opportunity to leverage available systems to improve standards and increase interoperability. Nevertheless, continuity of care and data sharing between these systems remains a challenge, particularly in populations with changing health needs, and inconsistent access to health resources. The overarching goal of this project is to enable sharing of data across low cost systems like OpenMRS and OpenClinica using ontologies. The project consists of three aims: 1) describing clinical research and visit data related to the treatment and care of HIV/AIDS patients, 2) developing a prototype data integration system between electronic medical record and electronic data capture systems, and 3) evaluating the utility of the prototype system using simulated and real-world data. In the first aim, I developed a patient identifier and a HIV/AIDS treatment and care ontology to represent the types of data and information created and used by clinicians. This was achieved by gathering data forms used in HIV/AIDS clinics in low-resource settings. From these forms, the patient identifier and HIV/AIDS variables were extracted and used to create the ontologies. In aim 2, the ontologies from aim 1, along with simulated data, were used to develop a prototype data integration system that improves the ability of developers to implement integration systems that meet the needs of users, based on previously created use cases. In the third aim, I evaluated whether the matching algorithm used in the prototype can correctly identify matching patients, and whether the prototype is generalizable to clinical care and research data collected in a real world setting. This work contributes two ontologies to the medical and public health fields that are useful in providing standardization of data elements. Additionally, I provide a prototype data integration system that is useful in facilitating access to previously siloed data and helps reduce the burden of integrating future systems.***

***Creating New Medical Ontologies for Image Annotation focuses on the problem of the medical images automatic annotation process, which is solved in an original manner by the authors. All the steps of this process are described in detail with algorithms, experiments and results. The original algorithms proposed by authors are compared with other efficient similar algorithms. In addition, the authors treat the problem of creating ontologies in an automatic way, starting from Medical Subject Headings (MESH). They have presented some efficient and relevant annotation models and also the basics of the annotation model used by the proposed system: Cross Media Relevance Models. Based on a text query the system will retrieve the images that contain objects described by the keywords.***

**"This book provides the latest and most relevant research on the understanding, expansion, and solutions on technologies used for improvements in the health and social care field"--Provided by publisher.**

**"This book addresses the Semantic Web from an operative point of view using theoretical approaches, methodologies, and software applications as innovative solutions to true knowledge management"--Provided by publisher.**

**The Semantic Web - ISWC 2009**

**7th Iberian Conference, IbPRIA 2015, Santiago de Compostela, Spain, June 17-19, 2015, Proceedings**

**Practical Aspects of Knowledge Management**

**Help and Support in Healthcare**

**Ontologies in Medicine**

**Artificial Intelligence in Medicine**

**Creating New Medical Ontologies for Image Annotation A Case Study Springer Science & Business Media**

**"This book is specific to the field of medical informatics and ubiquitous health care and highlights the use of new trends based on the new initiatives of Web 2.0"--Provided by publisher.**

**Advances are constantly being made in the fields of medicine and healthcare, and keeping abreast of them is not always easy. This book presents the proceedings of the second KES International Conference on Innovation in Medicine and Healthcare (InMed 14), held in San Sebastian, Spain, in July 2014. The conference was attended by researchers and engineers, managers, students and practitioners from a broad spectrum of medically related fields, and this multidisciplinary group discussed the ways in which technological and methodological innovation, knowledge exchange and enterprise can be applied to issues relating to medicine, surgery, healthcare and the issues of an ageing population. A central theme of the conference was smart medical and healthcare systems, which explored how modern intelligent systems can contribute to the solution of problems faced by healthcare and medical practitioners today and addressed the application of the systems. The 43 papers included here provided a useful and interesting reference for anyone requiring an overview of current innovations in healthcare.**

**This book constitutes the refereed proceedings of the 16th Conference on Artificial Intelligence in Medicine, AIME 2017, held in Vienna, Austria, in June 2017. The 21 revised full and 23 short papers presented were carefully reviewed and selected from 113 submissions. The papers are organized in the following topical sections: ontologies and knowledge representation; Bayesian methods; temporal methods; natural language processing; health care processes; and machine learning, and a section with demo papers.**

**Intelligent Computing**

**From Patient Data to Medical Knowledge**

**Precision Medicine and the Reinvention of Human Disease**

**Pattern Recognition and Image Analysis**

**Medinfo 2007**

**The Principles and Practice of Health Informatics**

**This book contains the papers presented at the 5th International Conference on Practical Aspects of Knowledge Management organized by the Department of Knowledge Management, Institute of Computer Science and Business Informatics, University of Vienna. The event took place on December 02–03, 2004 in Vienna. The PAKM conference series offers a communication forum and meeting ground for practitioners and researchers engaged in developing and deploying advanced business solutions for the management of knowledge and intellectual capital. Contributions pursuing integrated approaches which consider organizational, technological and cultural issues of knowledge management have been elected for presentation. PAKM is a forum for people to share their views, to exchange ideas, to develop new insights, and to envision completely new kinds of solutions for knowledge management problems. The accepted papers are of high quality and are not too specialized so that the main issues can be understood by someone outside the respective field. This is crucial for an interdisciplinary exchange of ideas. Like its predecessors, PAKM 2004 featured two invited talks. It is a real joy seeing the visibility of the conference increase and noting that knowledge management researchers and practitioners from all over the world submitted - pers. This year, 163 papers and case studies were submitted, from which 48 were - cepted.**

**Contains papers which reflect the breadth and depth of the field of biomedical and health informatics, covering topics such as; health information systems, education, standards, consumer health and human factors, emerging technologies, sustainability, organizational and economic issues, genomics, and image and signal processing.**

**As the Web continues to grow, increasing amounts of data are being made available for human and machine consumption. This emerging Semantic Web is rapidly entering the mainstream and, as a result, a variety of new solutions for searching, aggregating and the intelligent delivery of information are being**

**produced, both in research and commercial settings. Several new challenges arise from this context, both from a technical and human-computer interaction perspective - e.g., as issues to do with the scalability and usability of Semantic Web solutions become particularly important. The International Semantic Web Conference (ISWC) is the major international forum where the latest research results and technical innovations on all aspects of the Semantic Web are presented. ISWC brings together researchers, practitioners, and users from the areas of artificial intelligence, databases, social networks, distributed computing, Web engineering, information systems, natural language processing, soft computing, and human-computer interaction to discuss the major challenges and proposed solutions, success stories and failures, as well the visions that can advance the field.**

**This book will address the discussion on online distance education, teacher education, and how the mathematics is transformed with the Internet, based on examples that illustrate the possibilities of different course models and on the theoretical construct humans-with-media.**

**Building Ontologies with Basic Formal Ontology**

**Concepts, Theories and Techniques for Knowledge Modularization****18th International Conference, ICOST 2020, Hammamet, Tunisia, June 24-26, 2020, Proceedings****5th International Conference, PAKM 2004, Vienna, Austria, December 2-3, 2004, Proceedings****8th International Semantic Web Conference, ISWC 2009, Chantilly, VA, USA, October 25-29, 2009, Proceedings****Proceedings of the Sixth International Conference (Fois 2010)**

An introduction to the field of applied ontology with examples derived particularly from biomedicine, covering theoretical components, design practices, and practical applications. In the era of "big data," science is increasingly information driven, and the potential for computers to store, manage, and integrate massive amounts of data has given rise to such new disciplinary fields as biomedical informatics. Applied ontology offers a strategy for the organization of scientific information in computer-tractable form, drawing on concepts not only from computer and information science but also from linguistics, logic, and philosophy. This book provides an introduction to the field of applied ontology that is of particular relevance to biomedicine, covering theoretical components of ontologies, best practices for ontology design, and examples of biomedical ontologies in use. After defining an ontology as a representation of the types of entities in a given domain, the book distinguishes between different kinds of ontologies and taxonomies, and shows how applied ontology draws on more traditional ideas from metaphysics. It presents the core features of the Basic Formal Ontology (BFO), now used by over one hundred ontology projects around the world, and offers examples of domain ontologies that utilize BFO. The book also describes Web Ontology Language (OWL), a common framework for Semantic Web technologies. Throughout, the book provides concrete recommendations for the design and construction of domain ontologies.

Medical informatics has revolutionized healthcare in recent years, and one of the major challenges now faced by health professionals everywhere is the further improvement of healthcare by making more effective use of the data from biomedical informatics, not least for education and decision support.

This book presents the 52 full papers (accepted from 95 initial submissions) delivered at the Special Topic Conference of the European Federation for Medical Informatics (EFMI STC 2018), held in Zagreb, Croatia, on 15 and 16 October 2018. The EFMI STC is one of Europe's leading conferences for the sharing of current professional and scientific knowledge in health informatics processes, and the topics covered here have been broadly divided into two sections; decision support and education. Offering an overview of current medical informatics research, this book will undoubtedly prove invaluable for the professional development of healthcare practitioners, as well as contributing to knowledge sustainability within the field of medical informatics.

The fields of rare diseases research and orphan products development continue to expand with more products in research and development status. In recent years, the role of the patient advocacy groups has evolved into a research partner with the academic research community and the bio-pharmaceutical industry. Unique approaches to research and development require epidemiological data not previously available to assist in protocol study design and patient recruitment for clinical trials required by regulatory agencies prior to approval for access by patents and practicing physicians.

How can you make the best use of patient data to improve health outcomes? More and more information about patients' health is stored on increasingly interconnected computer systems. But is it shared in ways that help clinicians care for patients? Could it be better used as a resource for researchers? This book is aimed at all those who want to learn about how IT is transforming the way we think about medicine and medical research. The ideas explored here are taken from research carried out around the world, and are presented by a leading authority in Health Informatics based at University College London. This comprehensive guide to the field is split into three sections: What is health informatics? – an introduction Techniques for representing and analysing patient data and medical knowledge Implementation in the clinical setting: changing practice to improve health care outcomes Whether you are a health professional, NHS manager or IT specialist, this book will help you understand how data can be managed to provide the information you and your colleagues want in the most helpful and accessible way for both you and your patients.

Information Systems and Technologies for Enhancing Health and Social Care

Cases and Applications

Ubiquitous Health and Medical Informatics: The Ubiquity 2.0 Trend and Beyond

23rd International Conference, BPMDS 2022 and 27th International Conference, EMMSAD 2022, Held at CAISE 2022, Leuven, Belgium, June 6–7, 2022, Proceedings

Artificial Intelligence for Knowledge Management

Text Mining of Web-Based Medical Content

*This book presents the proceedings of the Computing Conference 2019, providing a comprehensive collection of chapters focusing on core areas of computing and their real-world applications. Computing is an extremely broad discipline, encompassing a range of specialized fields, each focusing on particular areas of technology and types of application, and the conference offered pioneering researchers, scientists, industrial engineers, and students from around the globe a platform to share new ideas and development experiences. Providing state-of-the-art intelligent methods and techniques for solving real-world problems, the book inspires further research and technological advances in this important area.*

*Recently, the Semantic Web has gained huge popularity to address these challenges. Semantic web technologies have the opportunity to transform the way healthcare providers utilize technology to gain insights and knowledge from their data and make decisions. Both big data and semantic web technologies can complement each other to address the challenges and add intelligence to healthcare management systems. The aim of this book is to analyze the*

current status on how Semantic Web is used to solve the health data integration and interoperability problem, how it provides advanced data linking capabilities that can improve search and retrieval of medical data. There are chapters in the book which analyze the tools and approaches to semantic health data analysis and knowledge discovery. The book discusses the role of semantic technologies in extracting and transforming healthcare data before storing it in repositories. It also discusses different approaches for integrating heterogeneous healthcare data. To summarize, the book will help readers understand key concepts in semantic web applications for biomedical engineering and healthcare.

This book constitutes the proceedings of the 7th Iberian Conference on Pattern Recognition and Image Analysis, IbPRIA 2015, held in Santiago de Compostela, Spain, in June 2015. The 83 papers presented in this volume were carefully reviewed and selected from 141 submissions. They were organized in topical sections named: Pattern Recognition and Machine Learning; Computer Vision; Image and Signal Processing; Applications; Medical Image; Pattern Recognition and Machine Learning; Computer Vision; Image and Signal Processing; and Applications

Ontology began life in ancient times as a fundamental part of philosophical enquiry concerned with the analysis and categorisation of what exists. In recent years, the subject has taken a practical turn with the advent of complex computerised information systems which are reliant on robust and coherent representations of their subject matter. The systematisation and elaboration of such representations and their associated reasoning techniques constitute the modern discipline of formal ontology, which is now being applied to such diverse domains as artificial intelligence, computational linguistics, bioinformatics, GIS, knowledge engineering, information retrieval and the Semantic Web. Researchers in all these areas are becoming increasingly aware of the need for serious engagement with ontology, understood as a general theory of the types of entities and relations making up their respective domains of enquiry, to provide a solid foundation for their work. The conference series Formal Ontology in Information Systems (FOIS) provides a meeting point for researchers from these and other disciplines with an interest in formal ontology, where both theoretical issues and concrete applications can be explored in a spirit of genuine interdisciplinarity. This volume contains the proceedings of the sixth FOIS conference, held in Toronto, Canada, during 11-14 May 2010, including invited talks by Francis Jeffry Pelletier, John Bateman, and Alan Rector and the 28 peer-reviewed submissions selected for presentation at the conference, ranging from foundational issues to more application-oriented topics.

*Innovation in Medicine and Healthcare 2014*

*Enterprise, Business-Process and Information Systems Modeling*

*Health Information Systems: Concepts, Methodologies, Tools, and Applications*

*Ontologies for Developing Things*

*A Case Study*

*16th Conference on Artificial Intelligence in Medicine, AIME 2017, Vienna, Austria, June 21-24, 2017, Proceedings*

•Includes Text Mining and Natural Language Processing Methods for extracting information from electronic health records and biomedical literature. •Analyzes text analytic tools for new media such as online forums, social media posts, tweets and video sharing. •Demonstrates how to use speech and audio technologies for improving access to online content for the visually impaired. Text Mining of Web-Based Medical Content examines various approaches to deriving high quality information from online biomedical literature, electronic health records, query search terms, social media posts and tweets. Using some of the latest empirical methods of knowledge extraction, the authors show how online content, generated by both professionals and laypersons, can be mined for valuable information about disease processes, adverse drug reactions not captured during clinical trials, and tropical fever outbreaks. Additionally, the authors show how to perform information extraction on a hospital intranet, how to build a social media search engine to glean information about patients' own experiences interacting with healthcare professionals, and how to improve access to online health information. This volume provides a wealth of timely material for health informatic professionals and machine learning, data mining, and natural language researchers. Topics in this book include: •Mining Biomedical Literature and Clinical Narratives •Medication Information Extraction •Machine Learning Techniques for Mining Medical Search Queries •Detecting the Level of Personal Health Information Revealed in Social Media •Curating Layperson's Personal Experiences with Health Care from Social Media and Twitter •Health Dialogue Systems for Improving Access to Online Content •Crowd-based Audio Clips to Improve Online Video Access for the Visually Impaired •Semantic-based Visual Information Retrieval for Mining Radiographic Image Data •Evaluating the Importance of Medical Terminology in YouTube Video Titles and Descriptions

An ontology is a description (like a formal specification of a program) of concepts and relationships that can exist for an agent or a community of agents. The concept is important for the purpose of enabling knowledge sharing and reuse. The Handbook on Ontologies provides a comprehensive overview of the current status and future perspectives of the field of ontologies. The handbook demonstrates standards that have been created recently, it surveys methods that have been developed and it shows how to bring both into practice of ontology infrastructures and applications that are the best of their kind.

This book features a selection of papers presented at the First IFIP WG 12.6 International Workshop on Artificial Intelligence for Knowledge Management, AI4KM 2012, held in Montpellier, France, in August 2012, in conjunction with the 20th European Conference on Artificial Intelligence, ECAI 2012. The 11 revised and extended papers were carefully reviewed and selected for inclusion in this volume. They present new research and innovative aspects in the field of knowledge management.

Information technology has been revolutionizing the everyday life of the common man, while medical science has been making rapid strides in understanding disease mechanisms, developing diagnostic techniques and effecting successful treatment regimen, even for those cases which would have been classified as a poor prognosis a decade earlier. The confluence of information technology and biomedicine has brought into its ambit additional dimensions of computerized databases for patient conditions, revolutionizing the way health care and patient information is recorded, processed, interpreted and utilized for improving the quality of life. This book consists of seven chapters dealing with the three primary issues of medical information acquisition from a patient's and health care professional's perspective, translational approaches from a researcher's point of view, and finally

the application potential as required by the clinicians/physician. The book covers modern issues in Information Technology, Bioinformatics Methods and Clinical Applications. The chapters describe the basic process of acquisition of information in a health system, recent technological developments in biomedicine and the realistic evaluation of medical informatics.

Ontology-Based Information Retrieval for Healthcare Systems

Intelligent Systems in Science and Information 2014

Formal Ontology in Information Systems

Ontology-based Data Integration of Open Source Electronic Medical Record and Electronic Data Capture Systems

The Ubiquity 2.0 Trend and Beyond

Semantic Web for Effective Healthcare Systems

*The book Intelligent Systems in Science and Information 2014 is the carefully edited collection of 25 extended chapters from selected papers in the field of Computational Intelligence that , which received highly recommended feedback during the Science and Information Conference (SAI) 2014 review process. All chapters have gone through substantial extension and consolidation and were subject to another round of rigorous review and additional modification and represent the state of the art of the cutting-edge research and technologies in the related areas.*

*Technological advances in generated molecular and cell biological data are transforming biomedical research. Sequencing, multi-omics and imaging technologies are likely to have deep impact on the future of medical practice. In parallel to technological developments, methodologies to gather, integrate, visualize and analyze heterogeneous and large-scale data sets are needed to develop new approaches for diagnosis, prognosis and therapy. Systems Medicine: Integrative, Qualitative and Computational Approaches is an innovative, interdisciplinary and integrative approach that extends the concept of systems biology and the unprecedented insights that computational methods and mathematical modeling offer of the interactions and network behavior of complex biological systems, to novel clinically relevant applications for the design of more successful prognostic, diagnostic and therapeutic approaches. This 3 volume work features 132 entries from renowned experts in the fields and covers the tools, methods, algorithms and data analysis workflows used for integrating and analyzing multi-dimensional data routinely generated in clinical settings with the aim of providing medical practitioners with robust clinical decision support systems. Importantly the work delves into the applications of systems medicine in areas such as tumor systems biology, metabolic and cardiovascular diseases as well as immunology and infectious diseases amongst others. This is a fundamental resource for biomedical students and researchers as well as medical practitioners who need to need to adopt advances in computational tools and methods into the clinical practice. Encyclopedic coverage: 'one-stop' resource for access to information written by world-leading scholars in the field of Systems Biology and Systems Medicine, with easy cross-referencing of related articles to promote understanding and further research Authoritative: the whole work is authored and edited by recognized experts in the field, with a range of different expertise, ensuring a high quality standard Digitally innovative: Hyperlinked references and further readings, cross-references and diagrams/images will allow readers to easily navigate a wealth of information*

*Medical and Health Genomics provides concise and evidence-based technical and practical information on the applied and translational aspects of genome sciences and the technologies related to non-clinical medicine and public health. Coverage is based on evolving paradigms of genomic medicine—in particular, the relation to public and population health genomics now being rapidly incorporated in health management and administration, with further implications for clinical population and disease management. Provides extensive coverage of the emergent field of health genomics and its huge relevance to healthcare management Presents user-friendly language accompanied by explanatory diagrams, figures, and many references for further study Covers the applied, but non-clinical, sciences across disease discovery, genetic analysis, genetic screening, and prevention and management Details the impact of clinical genomics across a diverse array of public and community health issues, and within a variety of global healthcare systems*

*The healthcare industry produces a constant flow of data, creating a need for deep analysis of databases through data mining tools and techniques resulting in expanded medical research, diagnosis, and treatment. Data Mining and Medical Knowledge Management: Cases and Applications presents case studies on applications of various modern data mining methods in several important areas of medicine, covering classical data mining methods, elaborated approaches related to mining in electroencephalogram and electrocardiogram data, and methods related to mining in genetic data. A premier resource for those involved in data mining and medical knowledge management, this book tackles ethical issues related to cost-sensitive learning in medicine and produces theoretical contributions concerning general problems of data, information, knowledge, and ontologies.*

*Rare Diseases Epidemiology: Update and Overview*

*Medical and Health Genomics*

*Available, Tailored, and Closer*

*Making Health Care Futures Through Technology*

*Semantic Knowledge Management: An Ontology-Based Framework*

*Concepts, Methodologies, Tools, and Applications*

With the advancements of semantic web, ontology has become the crucial mechanism for representing concepts in various domains. For research and dispersal of customized

healthcare services, a major challenge is to efficiently retrieve and analyze individual patient data from a large volume of heterogeneous data over a long time span. This requirement demands effective ontology-based information retrieval approaches for clinical information systems so that the pertinent information can be mined from large amount of distributed data. This unique and groundbreaking book highlights the key advances in ontology-based information retrieval techniques being applied in the healthcare domain and covers the following areas: Semantic data integration in e-health care systems Keyword-based medical information retrieval Ontology-based query retrieval support for e-health implementation Ontologies as a database management system technology for medical information retrieval Information integration using contextual knowledge and ontology merging Collaborative ontology-based information indexing and retrieval in health informatics An ontology-based text mining framework for vulnerability assessment in health and social care An ontology-based multi-agent system for matchmaking patient healthcare monitoring A multi-agent system for querying heterogeneous data sources with ontologies for reducing cost of customized healthcare systems A methodology for ontology based multi agent systems development Ontology based systems for clinical systems: validity, ethics and regulation

Despite what you may have read in the popular press and in social media, Precision Medicine is not devoted to finding unique treatments for individuals, based on analyzing their DNA. To the contrary, the goal of Precision Medicine is to find general treatments that are highly effective for large numbers of individuals who fall into precisely diagnosed groups. We now know that every disease develops over time, through a sequence of defined biological steps, and that these steps may differ among individuals, based on genetic and environmental conditions. We are currently developing rational therapies and preventive measures, based on our precise understanding of the steps leading to the clinical expression of diseases. Precision Medicine and the Reinvention of Human Disease explains the scientific breakthroughs that have changed the way that we understand diseases, and reveals how medical scientists are using this new knowledge to launch a medical revolution. Clarifies the foundational concepts of Precision Medicine, distinguishing this field from its predecessors such as genomics, pharmacogenetics, and personalized medicine. Gathers the chief conceptual advances in the fields of genetics, pathology, and bioinformatics, and synthesizes a coherent narrative for the field of Precision Medicine. Delivers its message in plain language, and in a relaxed, conversational writing style, making it easy to understand the complex subject matter. Guides the reader through a coherent and logical narrative, gradually providing expertise and skills along the way. Covers the importance of data sharing in Precision Medicine, and the many data-related challenges that confront this fragile new field.

Ontologies for Developing Things offers a series of conceptually inventive analyses of the future-making processes put in motion in contemporary health care systems with the introduction of electronic patient records and other communication technologies. The book shows how such technological development and implementation processes are bound up with multiple other issues: professional, social, economic and political. Through such processes health care ontologies gradually change, often with unanticipated effects. In analyzing these effects, Jensen offers a highly innovative interpretation of where science and technology studies could be headed - towards performative, non- humanist modes of inquiry. Casper Bruun Jensen is one of the most intellectually accomplished and creative theorists of second-generation Science and Technology Studies (STS) as well as one of the most active and productive researchers in the field. In Ontologies for Developing Things, he offers a series of highly original delineations and vigorous defenses of recent developments--or, as he calls them "dispositions"--in STS (ontological, performative, pragmatist, and so forth) through a series of parallel narrations of his own onsite studies of the introduction of new medical-information technologies in Denmark and Canada. Ontologies for Developing Things is a work of unflagging intelligence and intellectual energy, spilling over with new ideas, surprising angles, sharp perceptions and interesting juxtapositions, and written with correspondingly attractive punch and force. Readers interested in information technologies, contemporary developments in social studies of science, and related cultural and political theory will find the book immensely engaging and endlessly useful. - Barbara Herrnstein Smith, Duke University and Brown University [author of Scandalous Knowledge: Science Truth and the Human and Natural Reflections: Human Cognition at the Nexus of Science and Religion] This superb book is all of empirically rich, politically engaged, ontologically profound and lucid. Any three of the four makes a very good book; all four makes an outstanding one. - Geoffrey C. Bowker, Professor in Cyberscholarship, University of Pittsburg (Author of Sorting Things Out: Classification and Its Consequences (With Susan Leigh Star) and Memory Practices in the Sciences).

This book constitutes a collection of research achievements mature enough to provide a firm and reliable basis on modular ontologies. It discusses the recent concepts, theories and techniques for knowledge modularization.

Proceedings of the 2019 Computing Conference, Volume 1

Creating New Medical Ontologies for Image Annotation

Systems Medicine

Decision Support Systems and Education

Encyclopedia of Bioinformatics and Computational Biology

**Title Page -- Contents -- If Ontology is the Solution, What is the Problem? -- Biodynamic Ontology: Applying BFO in the Biomedical Domain -- Bodily Systems and the Spatial-Functional Structure of the Human Body -- Inflammation Ontology Design Pattern: An Exercise in Building a Core Biomedical Ontology With Descriptions and Situations -- Context-Based Task Ontologies for Clinical Guidelines -- An Ontological Framework for the Implementation of Clinical Guidelines in Health Care Organizations -- Gene Ontology Application to Genomic Functional Annotation, Statistical Analysis and Knowledge Mining -- Evolving from Standard Vocabularies to Formal Ontology for an Information System Dedicated to Organ Transplantation -- Mistakes in Medical Ontologies: Where Do They Come From and How Can They Be Detected? -- Author Index**

***This book constitutes the refereed proceedings of the 9th Conference on Artificial Intelligence in Medicine in Europe, AIME 2003, held in Protaras, Cyprus, in October 2003. The 24 revised full papers and 26 revised short papers presented together with two invited contributions were carefully reviewed and selected from 65 submissions. The papers are organized in topical sections on temporal reasoning, ontology and terminology, image processing and simulation, guidelines and clinical protocols, terminology and natural language issues, machine learning, probabilistic networks and Bayesian models, case-based reasoning and decision support, and data mining and knowledge discovery.***

***Handbook on Ontologies***

***Modular Ontologies***

***Data Mining and Medical Knowledge Management: Cases and Applications***

***The Impact of Digital Technologies on Public Health in Developed and Developing Countries***

***9th Conference on Artificial Intelligence in Medicine in Europe, AIME 2003, Protaras, Cyprus, October 18-22, 2003, Proceedings***

***Enabling Health and Healthcare Through ICT***