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Semantic Technologies for Intelligent Industry 4.0 Applications

Editors:

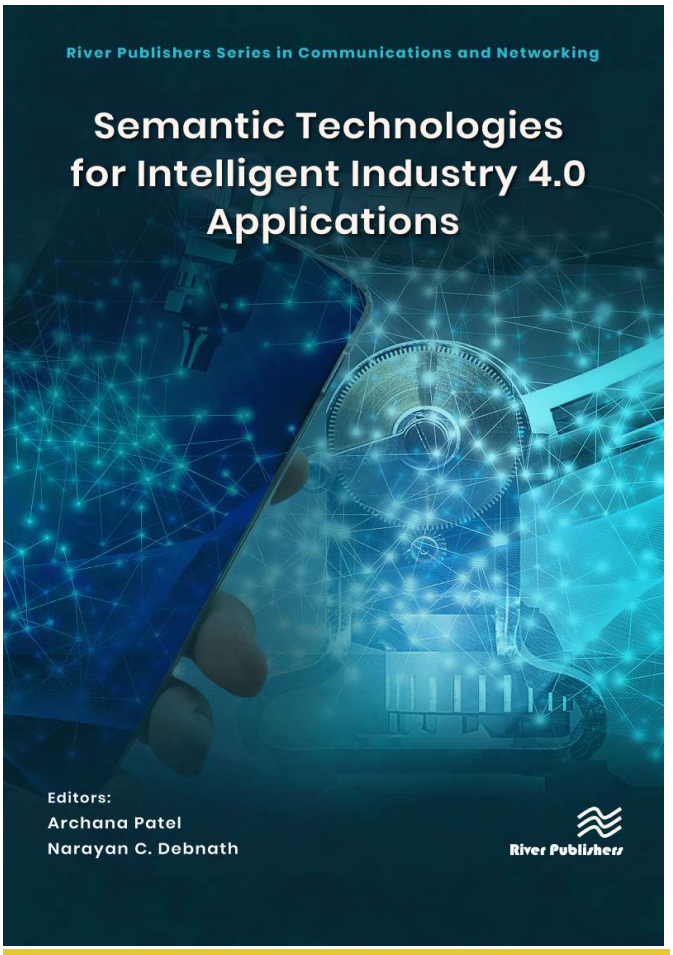
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This book provides a roadmap for semantic technologies and highlights the role of these technologies in industry, making it an important guide towards the latest industrial applications of semantic technologies for the upcoming generation and is a unique resource for scholars, researchers, professionals and practitioners in the field.

The book also explores the present and future prospects of these semantic technologies along with providing answers to various questions like: Are semantic technologies useful for the next era (industry 4.0)? Why are semantic technologies so popular and extensively used in the industry? Can semantic technologies make intelligent industrial applications? Which type of problem requires the immediate attention of researchers? Why are semantic technologies very helpful in people's future lives?

As the world enters the era of big data, there is a serious need to give a semantic perspective to the data in order to find unseen patterns, derive meaningful information, and make intelligent decisions. Semantic technologies offer the richest machine-interpretable (rather than just machine-processable) and explicit semantics that are being extensively used in various domains and industries. These technologies reduce the problem of large semantic loss in the process of modelling knowledge, and provide sharable, reusable knowledge, and a common understanding of the knowledge. As a result, the interoperability and interconnectivity of the model make it priceless for addressing the issues of querying data. These technologies work with the concepts and relations that are very close to the working of the human brain. They provide a semantic representation of any data format: unstructured or semi-structured. As a consequence, data becomes real-world entity rather than a string of characters. For these reasons, semantic technologies are highly valuable tools to simplify the existing problems of the industry leading to new opportunities. However, there are some challenges that need to be addressed to make industrial applications and machines smarter.



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