Call for Papers

A Special Issue of Information Sciences

“Intelligent Knowledge-Based Models and Methodologies for Complex Information Systems”

Complex information systems require more and more advanced knowledge representation, management, and discovery tools and techniques, which converge in a collection of intelligent knowledge-based models and methodologies of emerging interest to research communities. This poses new challenges on the issue of devising innovative methodologies and paradigms in the context of a broad framework encompassing several research topics ranging from knowledge representation to knowledge integration, from knowledge management to knowledge processing, from knowledge discovery to knowledge delivery, and from knowledge security to privacy preserving knowledge. From these challenges, a novel class of complex intelligent information systems raises, where knowledge representation, management, and discovery are emphasized in order to achieve complex functionalities going far beyond those of traditional information-oriented methodologies.


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In all these research fields, despite some recent advancements, various aspects need to be further investigated, among which noticeable ones are the following:

- formal foundations;
- knowledge representation methodologies and techniques;
- knowledge management methodologies and techniques;
- knowledge integration methodologies and techniques;
- knowledge processing methodologies and algorithms;
- knowledge discovery methodologies and algorithms;
- knowledge pattern extraction methodologies and algorithms;
- knowledge delivery methodologies and techniques;
- knowledge security methodologies and techniques;
- privacy preserving knowledge methodologies and techniques;
- advanced database management methodologies and algorithms;
- advanced query languages and techniques;
- database integration methodologies and techniques;
- ETL methodologies and algorithms;
- OLAP data cube computation and query processing techniques;
- data warehouse integration methodologies and techniques;
- data mining and machine learning algorithms and techniques;
- complex data mining techniques (e.g., multi-relational data mining);
- collaborative information processing methodologies and techniques;
- process representation and management methodologies and techniques;
- ontology representation and management methodologies and techniques;
- Web/Grid representation and management methodologies and techniques;
- data stream query languages;
- data stream information processing methodologies and techniques.

With these goals in mind, the proposed special issue will cover theoretical as well as practical aspects of intelligent knowledge-based models and methodologies for complex information systems. The proposed special issue will focus on complex information systems in next-generation emerging scenarios like, for instance, Web and Grid Services, Cloud Computing, Context-aware Database Management and Knowledge Processing, Multi-Facet Information Retrieval, and so forth. Contrary to traditional information systems that focus on algorithmic and pragmatic aspects, these scenarios indeed demand for innovative models and methodologies, from abstracted knowledge/information representation models to fine-grained knowledge/information processing and fruition schemes.
Submission format

The submitted papers must be written in English and describe original research which is not published nor currently under review by other journals or conferences. Author guidelines for preparation of manuscript can be found at www.elsevier.com/locate/ins
For more information, please contact the Editor-in-Chief:
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Submission Guideline

All manuscripts and any supplementary material should be submitted through Elsevier Editorial System (EES). The authors must select as "Special Issue: Intll. Mod. Meth." when they reach the “Article Type” step in the submission process. The EES website is located at:
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