

## SPECIAL ISSUE: BIG DATA SEMANTICS

### Call for papers

The complexity of Big Data applications in conjunction with the lack of standards for representing their components, computations, and processes, have made the design of data-intensive applications a failure prone and resource-intensive activity. One of the reasons behind it can be identified in a lack of sound modeling practices. Indeed, multiple components and procedures must be coordinated to ensure a high level of data quality and accessibility for the application layers, e.g. data analytics and reporting. We believe that a major challenges of Big Data research requires - even more than developing new analytics - devising innovative data management techniques capable to deliver functional and non-functional properties like among others: data quality, data integration, metadata discovery, reconciliation and augmentation, model compliance, or regulatory compliance.

Data Semantics research can address such challenges in future research according to the FAIR principles, for implementing design procedures that generate Findable, Accessible, Interoperable, and Reusable data. Methods, principles, and perspectives developed by the Data Semantics community can significantly contribute to this goal. Solutions for integrating and querying schema-less data, for example, have received much attention. Standards for metadata management have been proposed to improve data integration among silos and to make data more discoverable and accessible through heterogeneous infrastructures. A further level of application of Data Semantics principles into Big Data technologies involves Representing Processes, i.e. representing the entire pipeline of technologies connected to achieve a specific solution and make this representation shareable and verifiable to support a mature implementation of the Big Data production cycle.

This special issue of the Journal on Data Semantics aims at sharing research and practical achievements in the field of Big Data integration, storage, and processing. Topics of interest for submission include, but are not limited to:

- **Big Data Management**
    - Metadata Management
    - Big Data Persistence and Preservation
    - Big Data Quality and Provenance Control
    - Big Data Storage and Retrieval
  - **Big Data Integration Architectures and Techniques**
    - Data Source Discovery
    - Big Data Profiling and Semantics Discovery
    - Querying Heterogeneous Big Data Repositories
    - Caching and Materializing Query Results
  - **Quality of Big Data Services**
    - Big Data Service Performance Evaluation
    - Big Data Service Reliability and Availability
    - Reproducibility of Big Data Services
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- Verifiability of Big Data Services
- Assurance in Big Data Services
- **Big Data Visualization**
  - Real Time Visualisation
  - Visualization Analytics for Big Data
  - Big Social Media Mining
- **Big Data Security and Privacy**
  - Big Data System Security and Integrity
  - Big Data Information Security
  - Privacy-Preserving Big Data Analytics
  - Usable Security and Privacy for Big Data
- **Performance of Big Data Architectures**
  - Query Optimization
  - Optimal Selection of Analytics
  - Physical Structures

### Guest Editors

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### Timetable:

10 Nov 2019 - paper submission

25 Jan 2020 - author notification

15 Mar 2020 - revision submission

25 Apr 2020 - final acceptance notification

10 Jun 2020 - camera-ready submission

### Submission Guidelines

JoDS is looking for high-quality papers on any topic relevant to the journal, including regular papers, survey papers, industry papers, short papers, position papers, and reports.

Submissions should contain original material that has not been submitted or published elsewhere. The submission should include an abstract and keywords, authors, and specify which author serves as contact author.

All submissions will be carefully reviewed by at least three experts.

Submissions have to be formatted according to the journal's guidelines at

<http://www.springer.com/13740>

and have to be uploaded into Springer's Electronic Management System at

<https://www.editorialmanager.com/jods>

JoDS is abstracted/indexed in: Google Scholar, DBLP, OCLC, Summon by ProQuest.

Selected sample articles are available at <http://www.springer.com/13740>

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