

Special Session on Big Data, Distributed Technologies and Intelligent Agents (BDIA)

held in conjunction with

IEEE 2015 International Conference on Data Science and Advanced Analytics (DSAA)

Paris, France, 19-21 October, 2015

<http://dsaa2015.lip6.fr>

Call for papers

About DSAA:

IEEE DSAA'2015 is an IEEE fully sponsored conference. DSAA'2015 aims to be a flagship data science and analytics conference in its kind, and provide a premier forum that brings together researchers, industry practitioners, as well as potential users of big data, for discussion and exchange of ideas on the latest theoretical developments in Data Science as well as on the best practices for a wide range of applications.

DSAA is also technically sponsored by ACM through SIGKDD. DSAA is the only IEEE/ACM jointly sponsored conference truly in data science, big data and advanced analytics. DSAA'2014 was a fabulous event held in 2014 in Shanghai, receiving the acceptance rate at 10.4% for regular presentations, and over 200 participants from 41 countries. It consisted of 11 main conference sessions, 7 special sessions, 5 keynote speeches, 4 trends and controversies invited talks, a panel, plus 2 tutorials for you to enjoy a very busy 3-day data science gathering. We are pleased to let you know that the DSAA'2014 proceeding has been included into IEEE Xplore, and you can find them in <http://ieeexplore.ieee.org/xpl/mostRecentIssue.jsp?punumber=7050498>.

Special Session: Big Data, Distributed Technologies and Intelligent Agents (BDIA)

It has been a long history that intelligent agent technologies facilitate solutions to data relevant issues such as data management, data mining, information extraction, search, and integration. Agent-based models provide an expedient framework for predicting expansion and evolution of data while distributed agent architectures make it possible to manage heterogeneous data resources. On the other hand, by actively analyzing the input of more and more data sources, intelligent agents can better response to the changing world and further improve their intelligence. For instance, a recommender agent provides desirable service to both purchasers and sellers by retrieving sensible knowledge from the growing data in the e-market.

The emergence of big data poses a series of challenges as well as prospects to both researchers and practitioners in relevant communities such as:

- computational instability of basic statistical processing algorithms like error accumulation, spurious correlations etc.,
- computational complexity of big data-driven model design, data management, data mining/machine learning,
- challenges in social computing, information search and knowledge extraction, etc.

The basic approaches intended to overcome these challenges are specialized algorithms for big data statistical processing, meta-data driven data splitting and dimensionality reduction, nonlinear data transformations intended for data aggregation and data filtering, ontology-driven big data structuring. The most of these approaches realize distributed algorithms that, in many cases, best fit the capabilities of distributed intelligent agent technologies.

A novel big data related issue is big software code analytics. Examples of such tasks are:

- identification of reuse practices in distributed, agent-based and service-oriented software development,
- search-driven software development, based on software semantics and software repositories
- mining messages execution traces and logs for improving software quality,
- system monitoring and fault-detection based on real-time system information.

The special session aims to promote discussions and exchanges of ideas and experience on theories, algorithms, technologies and applications of the synergy between intelligent agents and big data research.

Scope:

The special session aims to facilitate discussions on a number of challenging topics on agents-based solutions to big data as well big data-driven agent technologies. In particular, we encourage submissions on, but not limited to:

1. Formal agent-based framework for big data
 - Agent-mediated parallel/distributed big data management/mining
 - Agent-based simulation models for data visualization,
2. Agent-based architectures for big data model design
 - Agent-mediated data-driven big data ontology design
 - Ontology-driven big data mining and machine learning,
3. Data-driven Intelligent Software
 - Big Code analytics for intelligent (software) design
 - Intelligent synthesis of software based on big data analysis
4. Data-driven agent systems
 - Data-driven reasoning and learning
 - Data-driven decision making and planning
 - Data-driven agent interaction and coordination
 - Data-driven personalized agents
5. Surveys and Case studies

Submission Instructions:

All submissions should be limited to a maximum of ten (10) pages, in the IEEE 2-column format. Papers are to be submitted through the EasyChair Conference System website.

<http://easychair.org/conferences/?conf=ieeedsaa2015>

Please select BDIA special session after logging in.

Important dates:

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| - Electronic submission of full papers: | 18 May, 2015 |
| - Notification of paper acceptance: | 06 July, 2015 |
| - Camera-ready copies of accepted papers: | 28 August, 2015 |

Publication:

All special session accepted papers will be included into the Special Session part of the main conference proceedings, published by IEEE and included in the IEEE Xplore Digital Library. Top quality papers accepted and presented at the conference will be selected for extension and publication in the special issues of some international journals, including International Journal of Data Science and Analytics and IEEE Intelligent Systems.

Special Session Program Chairs:

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Special Session Organizing Co-chairs:

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