

SPECIAL ISSUE CALL FOR PAPERS
FOR JOURNAL OF UNIVERSAL COMPUTER SCIENCE
“COMPUTATIONAL INTELLIGENCE TOOLS FOR PROCESSING COLLECTIVE DATA”

This special issue of Journal of Universal Computer Science (<http://www.jucs.org/>) on *Computational Intelligence Tools for Processing Collective Data* deals with the importance of computational intelligence paradigms for information systems.

I. Scope of the Issue

Collective data mean data originating from different and autonomous sources. The issue focuses on various methods and techniques of computational intelligence. Application of these methods and techniques is today considered as a key success factor for most of the real-life information systems. These tools and techniques are used to enhance, support or replace traditional approaches to decision making in intelligent data mining, mining data streams, big and complex data analysis, transportation and project management. Majority of papers in this issue concerns methods of knowledge representation including the rough sets, fuzzy sets or Bayesian networks. Knowledge integration, collective intelligence, the family of evolutionary and the bio-inspired techniques are also in the spotlight of the special issue. Moreover, various neural network architectures are discussed and their learning algorithms are derived. The real-life applications of these tools and techniques are presented in the issue.

Topics of research include, but are not limited to:

- methods in pattern recognition, clustering, classification and regression
- nature-inspired techniques in machine learning and data mining
- data analysis methods combined with rough sets, fuzzy sets, Bayesian networks and artificial neural networks
- multi-agent in data mining and knowledge discovery
- evolutionary and co-evolutionary algorithms and their applications
- swarm intelligence
- multiple learning models
- interactive learning
- intelligent data preprocessing
- models and methods for big data analysis
- adaptive and evolving learning methodologies for big data analysis
- data stream mining
- cooperative strategies
- collective decision making
- agent-based modeling and problem solving
- visualization of data
- parallel and distributed methods for knowledge discovery
- knowledge-based systems
- applications of intelligent techniques for decision making and optimization problem

This special issue combines extended invited papers from the conference CYBCONF 2015 and is also open to the community.

II. Paper Submission Instructions

- Manuscripts should not exceed 20 pages. All submissions must be in English, formatted according to the guidelines of Journal of Universal Computer Science (JUCS). The submission guidelines can be found at <http://www.jucs.org/ujs/jucs/info/submissions>.

The extended version of papers originally presented at the CYBCONF 2015 conference must contain about 50% new material and the title of the extended version must clearly and unmistakably differ from the title of the article presented at the conference.

- Manuscripts in PDF format should be submitted via EasyChair (<https://easychair.org/conferences/?conf=cfp-citpcd15>).
- Each paper will be blind reviewed by at least 3 reviewers.
- According to the covered main subjects already listed.
- The special issue may not only contain papers from the conference – this is an open call for paper.

III. Important Dates

- Submission of initial papers due: **Nov. 30, 2015**
- Preliminary decision: **Feb. 28, 2016**
- Revised papers due: **Mar. 31, 2016**
- Final acceptance: **May 31, 2016**
- Camera ready papers submission: **Jun. 15, 2016**
- Special issue publication: **2016**

IV. Guest editors

Prof. Ngoc Thanh Nguyen, Wroclaw University of Technology, Poland, Ngoc-Thanh.Nguyen@pwr.edu.pl
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V. List of reviewers: *(we plan to have at least 3 reviews for each paper)*

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- Richi Nayak, Queensland University of Technology, Australia