CALL FOR PAPERS

IEEE Transactions on Emerging Topics in Computational Intelligence

Special Issue on Computational Intelligence for Cloud Computing

I. AIM AND SCOPE

With the rapid advancement of modern technology, the existing communication models and computing environments have changed immensely. Cloud computing has emerged as an exciting new computing environment where computing infrastructure, platforms, and software application services are offered at low cost from remote very-large-scale data centres accessed over the Internet. Cloud computing shares some characteristics common to parallel computing, but differs in that it uses virtualization for resource management. Since it offers huge savings in business costs, cloud computing has recently received large amounts of attention and continued to be of high priority for researchers and developers in both academia and industry.

Traditional Computational Intelligence (CI) methods have played important roles in solving a variety of networking and computing tasks in cyberspace in a reliable, unbiased, and automatic manner. The emergence of cloud computing environments poses a number of difficulties, complex issues in optimization and learning as well as other aspects. They call for new paradigms because the arising problems have become intractable when dealt with the use of traditional methods. CI research could provide important technical innovations to develop intelligent solutions for the new computing environments and their real world applications. The development of new CI theories and techniques for cloud computing has attracted significant amount of attention recently from academia, industry, and government as well.

The aims of this special issue are (1) to present the state-of-the-art research on utilizing novel CI techniques for cloud computing environments, and (2) to provide a forum for experts to disseminate their recent advances and views on future perspectives in the field.

II. THEMES

In this special issue, we will invite papers that present new CI theories, methods and techniques applied to cloud computing. We particularly encourage papers demonstrating novel CI strategies to new types of cloud computing domains such as mobile cloud computing, social cloud computing, etc. Applications may be drawn by investigating the usage of CI for all aspects of the cloud computing system, including the architecture analysis, system design, prototype implementation, performance optimization, operation maintenance, and security management. Specific topics may include the application of CI to the following areas:

- Resource allocation and scheduling in cloud services
- System optimization in cloud environment
- Cloud system design
- Energy efficiency in cloud computing
- Cloud management (configuration, performance, and capacity)
- Storage, data, and analytics clouds
- Virtual machine placement in cloud infrastructure
- Computation partitioning in mobile cloud computing
- Resource management in mobile cloud environments
- Security and privacy in cloud computing

III. SUBMISSIONS

Manuscripts should be prepared according to the "Information for Authors" section of the journal found at http://cis.ieee.org/ieee-transactions-on-emerging-topics-in-computational-intelligence.html and submissions should be done through the journal submission website: https://mc.manuscriptcentral.com/tetci-ieee, by selecting the Manuscript Type of "Computational Intelligence for Cloud Computing" and clearly marking "Computational Intelligence for Cloud Computing Special Issue Paper" as comments to the Editor-in-Chief. Submitted papers will be reviewed by at least three different expert reviewers. Submission of a manuscript implies that it is the authors' original unpublished work and is not being submitted for possible publication elsewhere.

IV. IMPORTANT DATES

Submission deadline: March 31, 2017
Author notification (R1): June 1, 2017
Revision: July 1, 2017
Author notification (R2): August 1, 2017
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