CALL FOR PAPERS

IEEE Transactions on Emerging Topic in Computational Intelligence

Special Issue on Computational Intelligence in Big Graph Data Management

I. Aim and Scope

Big Graph Data Management (BGDM) has been significant in lots of areas, like biology, transportation, medical science, and physics, etc. BGDM has been widely used in, for example, route planning in transportation graphs, expert finding in social graphs, and DNA structure identification in protein graphs. In these applications, due to the large-scale of big graph data, the complex attributes included in big graphs, and the dynamic changes of big graph structures, the requirements for the computational intelligence in graph data management are becoming more and more demanding. For example, the effective graph embedding techniques for high dimensional big graph data, the prediction of graph structures in dynamic big graphs, the deep learning-based trust, security, and privacy management in big graph data, the intelligent distributed and parallel algorithms for big graph data search. The Computational Intelligence related techniques, like the deep learning and the neural networks are becoming core methods and effective ways of addressing the challenges in big data management. Therefore, it is necessary to develop mechanisms with adopting computation intelligence in big graph data management, which builds up a secure, effective, and efficient environment for the BGDM, further supporting graph data-based applications as a backbone.

The goal of this special issue is to solicit high quality, original research contributions on the application of Computational Intelligence in big graph data management, thereby capturing the state of the art and stimulating further developments in the related areas.

II. Topics

The topics of interest for this special issue include, but are not limited to:

- Computational intelligence in the trust, security, and privacy of big graph data
- Computational intelligence in the storage of big graph data
- Computational intelligence in the search of big graph data
- Computational intelligence in distributed/parallel and real-time processing of big graph data
- Computational intelligence in indexing big graph data
- Computational intelligence in mining big graph data
- Computational intelligence in big graph data management platforms/systems
- Computational intelligence in graph data visualization
- Computational intelligence in big graph data-based applications
- The evaluation and benchmarking of using Computational Intelligence for big graph data management
- Computational intelligence in graph-based inferencing and prediction
- Computational intelligence in uncertainty management on graph-based analysis
- The applications of combining computational intelligence with big graph data management

III. Submissions

Manuscripts should be prepared according to the "Information for Authors" section of the journal 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 Graph Big Data Management" and clearly marking "Computational Intelligence for Big Graph Data Management Special Issue Paper" as comments to the Editor-in-Chief. Submitted papers will be reviewed by at least three different 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 Date

- Paper submission deadline: April 30, 2021
- Notice of the 1st round review results: July 31, 2021
- Revision due: September 30, 2021
- Final notice of acceptance/reject: November 30, 2021

V. Guest Editors

- Dr. Guanfeng Liu, Macquarie University, Sydney, Australia.
  Email: guanfeng.liu@mq.edu.au
- Prof. An Liu, Soochow University, Suzhou, China.
  Email: anliu@suda.edu.cn
- Prof. Qing Li, The Hongkong Polytechnic University, Hongkong, China.
  Email: csqli@comp.polyu.edu.hk
- Prof. Huanhuan Chen, University of Science and Technology of China, Hefei, China.
  Email: hchen@ustc.edu.cn
- Dr. Deepak Puthal, Newcastle University, UK
  Email: deepak.puthal@ncl.ac.uk