Special Issue on Computational Intelligence in Big Data Analysis

Computational Intelligence (CI), a set of nature-inspired computational methodologies and approaches to enable or facilitate intelligent behavior in complex and changing environments, i.e., artificial neural networks, fuzzy systems, evolutionary computing, swarm intelligence and rough sets, have been applied successfully to solve real-world problems. Big data is a collection of data sets so large and complex that it becomes difficult to process using on-hand database management tools or traditional data processing applications. The challenges include capture, curation, storage, search, sharing, transfer, analysis, and visualization. Big data analysis refers to tools and methodologies that aim to transform massive quantities of raw data into “data about data”-for analytical purpose.

This special issue aims at fostering the latest development on Computational Intelligence Techniques for Big Data analysis. Original contributions that provide novel theories, frameworks, and solutions to challenging problems of Big Data analysis from ISKE2013 (http://kjbjb.szu.edu.cn/iske/) will be solicited for this Special Issue. Potential topics include, but are not limited to:

- The use of computational intelligence techniques such as:
  - Neural networks
  - Fuzzy logic
  - Rough sets
  - Evolutionary computing
  - Swarm intelligence

- in/for:
  - Data size and feature space adaptation
  - Uncertainty modeling in learning from big data
  - Distributed learning techniques in uncertain environment
  - Uncertainty in cloud computing
  - Distributed parallel computation
  - Feature selection/extraction in big data
  - Sample selection based on uncertainty
  - Incremental Learning
  - Manifold Learning on big data
  - Uncertainty techniques in big data classification/clustering
  - Imbalance learning on big data
  - Active learning on big data
  - Random weight networks on big data
  - Transfer learning on big data

Schedule:
December 1, 2013: Submission deadline.
April 15, 2014: Submission of 1st revision.

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