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# Computational Intelligence: An International Journal

## Call for Papers

### Special Issue on *Multi-Agent Ensemble Learning: Theories and Practices*

Guest Editors: Dr. Lean Yu

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Multi-agent ensemble learning is an emerging and rapidly expanding research direction in the field of machine learning, which studies algorithms and architectures that build collections, group, combination, or ensemble, of learning agents that are more accurate than a single learning agent. It emphasizes the cooperative and competitive behaviors of learning agents in environments with some degree of adaptation and autonomy.

With the advancement of computational learning theories, many learning agents become available. However, the presence of large numbers of agents, increasingly complex agent behaviors, partially observable environments, and the mutual adaptation of agent behaviors make the ensemble learning process a challenging one. These problems are further complicated by noisy data, limited communication, and stochastic and uncertain environments. For these reasons, a wide range of machine learning issues appear in a new form in multi-agent settings, such as constructive induction, relevance learning, cooperative learning, learning bias, over-fitting, problem coordination, communication and integration of information. Furthermore, some practical settings in multi-agent ensemble learning, such as robot soccer, mining large datasets in geography, distributed data mining in transportation and finance, is required to be self-adapted for each agent. For these issues, different theories, such as human learning, game theory and economics, distributed systems, distributed knowledge representation, group development and evolution will be used. In order to promote the development of multi-agent ensemble learning, the main aim of this special issue is not to merely illustrate the superior performance of an innovative multi-agent ensemble learning method, but also to demonstrate how it can be used effectively in some practical application problems.

For this purpose, *Computational Intelligence* will publish a special issue dedicated to the theme of “*Multi-Agent Ensemble Learning: Theories and Practices*”. We cordially invite the authors of papers presented at The 2009 International Joint Conference on Computational Sciences and Optimization (CSO2009), April 24-26, 2009 and The 2nd International Conference on Business Intelligence and Financial Engineering (BIFE2009), July 24-26, 2009, Beijing, China to submit their expanded papers with at least 30% additional materials relative to conference papers to this special issue of the *Computational Intelligence*. New submissions related to the following topics are welcome.

#### Topics

This special issue will include, but not limited to the following topics:

- Cooperative ensemble learning
- Co-adaptation, co-evolution and modelling
- Collaborative Reinforcement Learning
- Swarm Intelligence
- Evolutionary game theory
- Multi-strategy Learning
- Multi-agent and Distributed approaches to Data Mining
- Distributed Data Mining over the Grid
- Evolution of common language, ontology, culture and social networks
- Computationally oriented studies of multi-agent ensemble learning
- Practical applications about multi-agent ensemble learning in astronomy, geography, transportation, finance and economics etc.

All papers will go through the normal refereeing process in accordance with the high standard of Computational Intelligence. Papers should be prepared according to the “Author Guidelines” on the journal website: <http://www.blackwellpublishing.com/journal.asp?ref=0824-7935>. Please submit your papers to Dr. Lean Yu (Email: [yulean@gmail.com](mailto:yulean@gmail.com)) no later than October 1, 2009 with a subject of “CI Special Issue Submission”.

#### **Important Dates**

(1) Full papers submission : October 1, 2009	(4) First round revision: March 31, 2010
(2) Relevancy Review and Evaluation: October 15, 2009	(5) Final manuscripts ready: May 1, 2010
(3) First round of peer-review: January 31, 2010	(6) Special issue papers to the publisher: June 1, 2010

For editorial inquiry and correspondence, please contact the Special Issue Editors:

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