

Welcome to
the Special
session for
IJCNN'2008

IEEE World Congress on Computational Intelligence

Hong Kong June 1-6, 2008



**Autonomous
Learning
Systems for
Optimization
and Control**

Special session for IJCNN'2008

Autonomous Learning Systems for Optimization and Control

[Call for
Papers]

Call for Papers

[Important
Dates]

Autonomous learning systems can learn optimized decision policies by active interaction with the external environment to achieve the goals. Therefore, such systems are critical for understanding and developing of highly *robust*, *adaptive*, and *fault tolerant* intelligent systems. Due to the complexity of many real-world application problems, such as nonlinear control, decision support systems, pattern recognition, and many others, it is a challenging task for modeling, optimization and control of highly nonlinear, large scale or networked engineering systems with information uncertainty. Autonomous learning systems provide a powerful mechanism to potentially solve such kind of problems. In recent years, there are many research efforts devoted to developing new theories and algorithms for autonomous learning systems from both industry and academia. For example, in the field of reinforcement learning, many works have been proposed to obtain optimal or near-optimal policy for Markov decision problems with large state space or little *a priori* model information.

[Paper
Submission]

[Session
Organizer]

The purpose of this special session is to bring together world-wide researchers for presenting and discussing common topics on theoretical and application issues targeted on autonomous learning systems for optimization and control. We hope this special session will provide the international experts and research community a platform for identifying important research topics and future directions in this domain. This special session is organized within the IEEE IJCNN'08, to be held in June 1-6 2008 at Hong Kong.

Paper submissions on new advances in theoretical aspects as well as applications of autonomous learning systems are invited. To maintain the multi-disciplinary of Autonomous Learning Systems research, the session also encourages the submission of work related to autonomous learning systems both computationally or mathematically. In addition, we also welcome well-written survey papers which discuss the current state-of-the-art development in this domain, or outline future research directions.

Papers are invited for submission on unpublished work in the following (but not limited to) areas:

- Reinforcement Learning
- Approximate Dynamic Programming
- Autonomous Learning in Robotics
- Unsupervised Learning
- Learning Control Methods and Applications
- Neural Networks for Learning and Control
- Incremental Learning
- Swarm Intelligence and Optimization
- Applications in Planning and Scheduling
- Applications in Decision Support Systems

Important Dates

Paper Submission: Dec 1, 2007
Acceptance Notification: Feb 1, 2008
Final Manuscript Due: Mar 1, 2008

Paper Submission

Manuscripts should be prepared according to the standard format and page limit specified in IJCNN 2008: 6 pages limit including figures, tables, graphs, references, etc.

For more submission instructions, please see the WCCI submission page at:

<http://www.wcci2008.org/submission.htm>

Please make sure that you select

Conference = IJCNN 2008

Session = Special, then select Autonomous Learning Systems for Optimization and Control

The IJCNN is the premier international conference in the field of neural networks, as well as the flagship conferences for the International Neural Network Society and the IEEE Computational Intelligence Society. All special session papers will be treated in the same way as regular papers and go through the peer-review process. The conference proceedings of IJCNN have been continuously included in the EI Compendex Database and IEEE Xplore.

For latest news, please refer to www.wcci2008.org. If you have any questions regarding this special session, please feel free to contact the session organizer at hhe@stevens.edu and xinxu@nudt.edu.cn directly.

We look forward to seeing you at Hong Kong in 2008!

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