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Special Issue on Monte Carlo Techniques and Computer Go

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In the last few years Monte Carlo Tree Search (MCTS) has revolutionised Computer Go, with MCTS programs such as MoGo, Crazy Stone, Fuego, Many Faces of Go, and Zen achieving a level of play that seemed unthinkable only a decade ago. These programs are now competitive at a professional level for 9x9 Go, and with an 8 stone handicap for 19x19 Go.

The purpose of this special issue is to publish high quality papers reporting the latest research covering the theory and practice of these and other methods applied to Go, and also in applying MCTS to other games.

MCTS can play very well even with little knowledge about the game as evidenced by its success in General Game Playing. However, it does not work well for all games, which poses some interesting questions. When and why does it succeed and fail? How can it be extended to new applications where it does not work yet? How best may it be combined with other approaches such as classical minimax search and knowledge-based methods?

Topics include but are not limited to:

- Emergent Technologies for Computer Go
- Variants of Go (phantom Go, Go Siege)
- Knowledge Representation Models for Computer Go
- MCTS and reinforcement learning
- MCTS for Video Games
- Approximation methods for MCTS
- MCTS for General Game Playing
- Hybrid MCTS approaches
- Evolving MCTS players

Authors should follow normal T-CIAIG guidelines for their submissions, but clearly identify their papers for this special issue during the submission process. See http://www.ieee-cis.org/pubs/tciaig/ for author information. Extended versions of previously published conference papers are welcome providing the journal paper provides a significant extension of the conference paper, and is accompanied by a covering letter explaining the additional contribution.

Schedule

- Deadline for submissions: March 15, 2010
- Notification of Acceptance: June 15, 2010
- Final copy due: October 20, 2010
- Publication: December 2010 or March 2011