

COMPUTATIONAL INTELLIGENCE AND GAMES

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Games are an ideal domain to study computational intelligence (CI) methods because they provide affordable, competitive, dynamic, reproducible environments suitable for testing new search algorithms, pattern-based evaluation methods, or learning concepts. They are also interesting to observe, fun to play, and very attractive to students. Additionally, there is great potential for CI methods to improve the design and development of both computer games and non-digital games such as board games. This special session aims at gathering not only leading researchers, but also young researchers as well as practitioners in this field who research applications of computational intelligence methods to computer games.

In general, papers are welcome that consider all kinds of applications of CI methods (evolutionary computation, supervised learning, unsupervised learning, fuzzy systems, game-tree search, rolling horizon algorithms, MCTS, etc.) to games (card games, board games, mathematical games, action games, strategy games, role-playing games, arcade games, serious games, etc.).

Topics

- Adaptation in games
- Automatic game testing
- Coevolution in games
- Comparative studies (e.g. Cl versus human-designed players)
- Dynamic difficulty in games
- Games as test-beds for CI algorithms
- Imitating human players
- Learning to play games



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SPECIAL SESSIONS

- Multi-agent and multi-strategy learning
- Player/opponent modelling
- Procedural content generation
- Results of game-based CI competitions
- Results of open competitions