General game players are computer systems that are able to accept declarative descriptions of arbitrary games at runtime and are able to play those games effectively without human intervention. Because general game players accept game descriptions at runtime, as opposed to specialized game players such as Deep Blue, they cannot rely on algorithms designed in advance for specific games. Instead, general game players are characterized by their use of general cognitive information-processing technologies such as knowledge representation, reasoning, learning, and rational decision-making, often in an integrated fashion.

While general game playing is a topic with inherent interest, work in its area has practical value as well. Its underlying technology can be used in a variety of other application areas, such as business process management, electronic commerce, and military operations.

The Competition

This year’s AAAI competition is designed to test the abilities of general game players by comparing their performance on a variety of previously unseen games. The 2008 competition will consist of three rounds of competition held during May and June 2008, with a final championship round to be held in Chicago at the AAAI. Scores accumulated over the course of those three rounds will be used to determine player rankings and the top 8 scoring players will be invited to compete at AAAI where the winner will be crowned champion.

Entrants will compete on a wide variety of games organized into taxonomies designed to isolate features of general games that are both exploitable and scientifically interesting. Examples of such taxonomies include number of players, branching factor, repeated states, and decomposability into independent subgames. Entrants will be expected to play games that require both competition and cooperation, as well as games that may not be exhaustively searchable in the time allowed.

Prize and Eligibility

The team that programs this year’s champion will be awarded a $10,000 prize. AAAI gratefully acknowledges the generous contribution of Michael Genesereth (Stanford University), which makes this award possible. The competition is open to the public with the exception of affiliates of Stanford University. Additionally, each team that is invited to the finals is asked to appear in person with a poster describing their player.

More Information

For more information, please see the competition website: games.stanford.edu.

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