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Abstract

Game playing has been one of the main areas of application of Artificial intelligence and programs are often described as being a combination of search and knowledge. The Board Games are very popular due to their nature provide dynamic environments that make them ideal area of computational intelligence theories, architectures, and algorithms. For almost all the board games building a quality evaluation function is usually a challenging work and requires lot of manual hard work and luck. The quality of the evaluation function is determined by its accuracy, relevance, cost and outcome. Good evaluation function must address all these parameters and then the weighed results are added to an evaluation function experimentally.

Almost all board games have very large state space. Due to this nature of board games, evolutionary algorithms such as Genetic algorithm are applied to the game playing. In natural evolution, the fitness of an individual is defined with respect to its competitors and collaborators, as well as to the environment. Evolutionary algorithms follow the same path to evolve game playing programs. Go-moku (Five-in-Line), the board game, is a variant of a Game of GO. This paper mainly highlights application of genetic algorithm to Go-moku and using genetic operators tries to find out fitness values through linear evaluation function applying genetic operators through linear evaluation function.

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Key words

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