计算机科学

一种围棋中盘问题的计算机求解方法

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摘要　　提出了一种获胜概率的计算方法，并结合组合赛局理论提出了一种计算机围棋中盘着手策略，包括棋步产生、评估和确定的方法；实现了一个围棋中盘问题求解程序Midgame.通过测试，职业棋手评估Midgame处理中盘问题的水平约为业余3段，其棋力完全可以应用于当前的围棋对弈软件中，在计算机博弈、人工智能和游戏软件的研究中具有实际应用意义.

关键词　　获胜概率； 组合赛局理论； 围棋； 中盘问题

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Computer solution of middle game problems in Go (Chinese)

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Abstract

　An approach to solve middle game problems in Go, which was based on the probability of winning and the combinatorial game theory, was presented. Specifically, the algorithm of probability of winning was improved in this paper. With this approach, the program Midgame was implemented, which could generate and evaluate candidate moves and find the best one. Having been tested by professional Go players, Midgame is estimated at about 3 dan in terms of its middle game performance. It is accurate enough to be used by Go programs in real time and of great significance in application of computer game, artificial intelligence and games.

Key words 　 probability of winning； combinatorial game theory； Go； middle game problems

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